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THE

EDINBURGH MEDICAL AND SURGICAL JOURNAL:

EXHIBITING

A CONCISE VIEW

OF THE

LATEST AND MOST IMPORTANT DISCOVERIES

IN

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1809.

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M^r WARDROP'S MODE OF MAKING THE INCISION OF THE CORNEA

Plate I. Vol.

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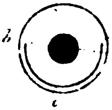
Fig. 1.



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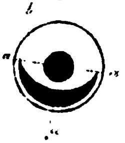

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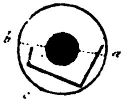

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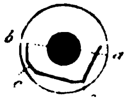

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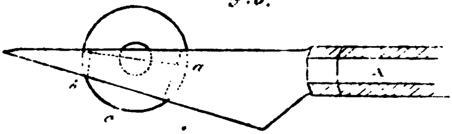


Drawings of the Scars of the Cornea after Extraction

Fig. 6.

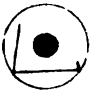


Fig. 7

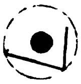


Fig. 8.

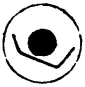
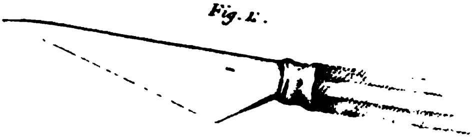


Fig. 9

Fig. 10.

Fig. 11.



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EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. JANUARY 1809.

PART I.
ORIGINAL COMMUNICATIONS.

I.

Practical Observations on the Mode of making the Incision of the Cornea, for the Extraction of the Cataract. By JAMES WARDROP, Fellow of the Royal Society, and of the Royal College of Surgeons, of Edinburgh.

THE following observations are written, with the view of pointing out some of the inconveniencies which arise, when the incision of the cornea is made in the usual manner recommended by authors, and of describing a plan of operation calculated to remove them. Perhaps there is no operation, the principles of which are more ingenious, than that of the extraction of the cataract. Its present state of perfection, however, is not to be altogether attributed to the ingenuity of its original inventor. It has arisen from the gradual introduction of improvements, made on the various parts of it by different individuals; and though, in its present state, it is every day practised with the happiest success, still it is by no means without its difficulties; and accidents occasionally arise, which more or less destroy the good effects which might have been reasonably expected from it.

To

To remedy these, therefore, in one part of the operation, is the object of the alterations which are now proposed.

The most celebrated surgeons of the present day have directed, that the incision of the cornea be made semicircular, forming a line close and parallel to the external circumference of its interior half (see Fig. 1. of the Plate); and in making the incision, the knife, except where the perpendicular puncture is made on entering the cornea, is directed to be carried on in the same plane with the iris. The cornea being of a very considerable thickness (nearly three lines), a great part of the incision will be necessarily carried through between its laminæ, and therefore the length of the incision of the internal lamina, will be much less than that of the external one: This will be still more clearly explained by examining Fig. 2, where, besides the external form or line of incision (a, a, a,) I have drawn a second line (b), intended to represent the incision of the internal lamina; the dark space, therefore, included between these two lines (b and a), represents that portion of the incision which is made between the laminæ.

The disadvantages which arise from this mode of operating, are the following:

1*st*, The external form deceives us in the extent of the internal incision, and much more difficulty is met with in bringing the lens through it, than *a priori* might have been expected; for as the line of the internal incision has only a very slight curvature, the thickness and tension of the cornea allows the edges of the wound to be only a little way separated from one another.

2*dly*, When the cornea is divided near its union with the sclerotic coat, and when the aqueous humour and lens have escaped, the portion of the iris opposite to the centre, and most depending part of the wound, loses the natural support given to it by the cornea, and is pushed forward, so that it comes in contact with the cornea, and even insinuates itself between the lips of the wound: thus the iris and cornea form permanent adhesions, in consequence of the inflammation which always follows the operation; the pupil becomes of an irregular form, and contracted, is drawn from the centre of the eye-ball, and retains but a very limited sphere of contraction and dilatation *. (See Fig. 10).

3*dly*, The contraction of the muscles of the globe pressing forward the contents of the posterior chamber, are very apt to push a portion of the vitreous humour, both through the pupil and wound of the cornea; and when this happens, the pupil becomes irregular, the form of the eye-ball is somewhat altered, and the prolapsed vitreous humour inclosed in its capsule, appears externally in the form of a small round transparent tumour.

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* In making the incision of the cornea, it is of importance that, on the one hand, it be not too small, so as to impede the ready extraction of the lens; on the other, that it be not so large, as, by taking away the support of the iris, to allow its edge to be pushed into contact with the wound. See Richter's Angfangsgründe der Wundartzneykunst.

4thly, As the external edge of the semicircular flap is very thin, and lies loose, the smallest movement of the eye-lids, particularly of the upper one, is apt to raise it out of its proper situation; and thus that speedy union is prevented, which would take place if the two divided surfaces were kept in accurate and constant contact.

5thly, and *lastly*. As the internal edge of the incision is frequently unavoidably made nearly opposite to the inferior margin of the pupil, and as all the extent of the cut surface (a, b, Fig. 2), sometimes remains opaque, after the wound has healed, the opacity of the cicatrix must diminish the sphere of vision. With a view of illustrating these observations, two drawings (Fig. 9. and 10.) are annexed, taken from eyes which had been operated on by a very able oculist, the late Baron Wenzel. In Fig. 9. it is evident, from the form and breadth of the cicatrix, that the knife had passed between the layers of the cornea; and as the opake lens was still remaining, the operator had, in all probability, found that, from the smallness of the internal incision, it was impossible to extract it. The cicatrix in Fig. 10. also shews the extent of the space through which the knife had passed between the lamellæ of the cornea, and from the natural support which is given to the iris by the cornea having been destroyed, the pupil is drawn down from the centre of the eye-ball, and is much contracted.

All these disadvantages, in the usual mode of making the incision of the cornea, appeared to me to arise chiefly from the want of a sufficient portion of the cornea being left at the inferior part of the wound, to support the iris, and to prevent the pressure of the parts contained within the eye-ball, and the occasional action of the muscles, pushing forward the iris toward the wound of the cornea: I therefore conceived, that if the incision could be made in such a manner, that a larger portion of the cornea could be left at the inferior part of the wound, and that, if, at the same time, it was made of such a form as to allow the easy extraction of the lens, a considerable improvement would be made in the operation. With this view, I made the incision in the following manner:

The best knife for the purpose is that of Mr Beer, the celebrated oculist of Vienna, by whom it is employed for the common operation. The blade is of a simple triangular form, the back being one continued line from the handle (a, Fig. 11.) Its point should be made firm, and the blade should turn gradually thicker from the point towards the handle. The back of it should not be left square, but rounded off and smooth. Having previously oiled the knife, to make it cut more keenly, its point is to be thrust through the cornea, a little above its transverse diameter, and one line from its margin, in a direction as if it was to pass through the pupil, or nearly perpendicular to the spherical surface of the cornea (Fig. 3. and 5. a.) When it reaches the plane of the iris, the blade is to be moved a little upon the incision which is already made, as a fulcrum, so that the point is elevated and turned towards the opposite side of the cornea. It is then to be carried forward, and a little obliquely downward, so that the cornea is again punctured at its transverse diameter, at the same distance from the sclerotic coat at which it had been entered on the opposite side. (Fig. 3.) By these two incisions, the blade has cut perpendicularly, or very nearly so, to the spherical surface of the cornea, and the gradual thickening of the knife, by filling up the wound as fast as it is made, prevents the aqueous humour from escaping. The eye is now completely secured by the knife, and the incision is to be finished by turning round the blade on its axis, thus keeping the edge turned outwards, in such a manner, that the remaining part of the incision is a straight line, and, therefore, nearly perpendicular to the lamellæ of the cornea (Fig. 3. c). If none of the aqueous humour has escaped before this last step of the incision is begun, it is sometimes necessary to withdraw the knife a very little, to allow a drop of it to escape, before the knife can be turned on its axis.

Supposing, therefore, that the cornea, instead of being a spherical, was a plane surface, the incision now described would be represented by (Fig. 3. a, b, c,); but as it is a segment of a sphere, the form will more resemble that in (Fig. 4.); at least this is the form of the incision which the operator should have in view to make when performing the operation.

By the inspection of these figures, (Fig. 3. and 4.) it therefore appears, 1*st*, That a large portion or ring of the cornea is left attached to the sclerotic coat, and must form, from its thickness, a complete support to the iris.

2*dly*, That as the incision is throughout nearly perpendicular to the lamellæ of the cornea, the length of the incision of the internal layer will be greater than when it is made in the usual manner, and equal to that of the external one, and, consequently, the lens will be more easily extracted through it.

3*dly*, The upper edge of the internal incision is also further below the edge of the pupil.

4thly, As the flap is very small, the edges thick, and not easily moveable, or apt to be caught by the motion of the eye-lids, the lips of the wound are not liable to be displaced, and, consequently, the wound has a much better chance of uniting by the first intention.

And, *lastly*, The cicatrix which remains is scarcely perceptible, and cannot be distinguished when the cornea is looked upon in a direction perpendicular to its surface.

The incision should be made so that the inferior edge of the wound (c, Fig. 3.) is half way between the circumference of the cornea and edge of the pupil, supposing the pupil to be in a moderate state of dilatation. If it be made nearer to the sclerotic coat, then the advantage to be expected from this mode of operating will be lost; and, on the other hand, if it be made at too great a distance from the sclerotic coat, and, consequently, too near the pupil, the iris will be apt to fall forwards, and a portion of it to pass through between the lips of the wound. In one case, in which this accident happened to me, the wound was long of uniting, and, after it was healed, the pupil remained very irregular and contracted.

In making the incision of the cornea in this manner, another circumstance also particularly deserves notice, which is, that on giving the knife the motion round its axis, after having punctured both sides of the cornea, there is a great risk of the iris turning over its cutting edge, some of the aqueous humour having by this time escaped. An operator who meets with this for the first time, is apt to think an wound of the iris inevitable; but if he cautiously stops the progress of the knife, and presses the iris from its edge, by gliding the point of his fore-finger over the cornea, the incision may be completed with perfect safety.

I should not omit mentioning, in this place, the great advantage to be derived by having the eye-ball properly fixed before attempting to introduce the knife. I suppose the upper eye-lid firmly secured by the fingers of an assistant, or by Pellier's speculum, and the fore and middle-finger of the operator's left hand placed within the eye-lid, in contact with the eye-ball, pressing firmly in the corner of the eye the *middle* finger, to prevent the ball rolling inward. When first touched with the point of the knife, the eye generally starts; I have, therefore, adopted it as a general rule, to touch the eye gently, or give it little strokes with the back of the knife, as long as it starts or remains unsteady; but the moment it appears fatigued and fixed, I draw the back of the knife with great caution along the surface of the cornea, till the point arrives at the exact place where it is intended

tended to penetrate, and then, with some quickness and firmness, it ought to be pushed into the anterior chamber.

In fixing the eye, too, great advantage is derived by making the assistant press considerably on the ball, whilst the knife is made to pass through both sides of the cornea; but whenever this part of the operation is completed, all pressure ought to be carefully guarded against and the upper eye-lid merely supported.

I have found the incision, such as has now been described, to fulfil completely my expectations, after having performed it in upwards of twenty cases, in order to extract the cataract, and also in other operations, where it was necessary to make an incision into the anterior chamber. I have also observed, in some persons who have been operated on by the most able oculists, that the incision of the cornea was by no means of the regular semicircular form, nor was it so near to the circumference of the cornea as is recommended; notwithstanding the lens in these cases was readily extracted, and the pupil remained perfectly regular. This most frequently happened in eyes which were operated on with the left hand: I therefore did not consider it as the aim of the operator to make the incision of such a form, but rather as an accident occasioned by the difficulty, which most people find in using their left hand.

The observations of Maunoir of Geneva*, by which he attempts to show, that the cornea often mortifies in consequence of the incision being made too large, or larger than a semicircle, I do not think are altogether satisfactory. The cases from which these conclusions were drawn are too few, and they seem to me to be only examples of the violent inflammation which sometimes follows the operation, producing abscess, ulceration, and destruction of the organization of the cornea, effects which must have been observed by all experienced surgeons. A very different series of symptoms might have been expected from a mere death of the cornea, in consequence of a want of supply of its blood by a division of its vessels. Indeed, in the only case, in which I ever had an opportunity of observing any effect at all analogous, the flap of the cornea did not adhere to the opposite side, a continual discharge of the aqueous humour took place, but none of the violent symptoms occurred which were observed by Mr Maunoir. Though, therefore, I would not apprehend the accession of such violent inflammatory symptoms, from making the incision too large, the bad effects by which it might be accompanied,

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* See the Edinburgh Medical and Surgical Journal, Vol. IV. p. 285.

nied, in retarding the ready reunion of the wound, ought certainly to be kept in view.

The first *five* figures of the plate are to be considered as mere plans, explanatory of the mode in which the incision of the cornea is to be made; other three figures are added (Figs. 6, 7, 8), which are accurate outlines, taken from patients on whom I had performed the operation. In Fig. 6. the operation was done on the right eye; and although the line of the incision appears strongly marked in the drawing, yet it could only be perceived in the eye itself by making the patient look upwards. Fig. 7th much resembles the former, and was taken from the left eye of another patient. In Fig. 8. the incision more resembles that given in the plans, but, it may be observed, it is too close to the edge of the pupil. This arose from a difficulty which took place during the operation; for after I had penetrated both sides of the cornea, a very unusual and remarkably strong contraction of the muscles of the globe of the eye took place, which required a continued force to overcome, so that the incision was completed with difficulty, and not in such a manner as could have been wished: even in this case, however, the pupil remained of a full size, and in the centre of the eye-ball.

Some of these observations were published in 1807, in the form of an Appendix to an Inaugural Dissertation on the Cataract, by Dr De Souza, to whom I had communicated them; but as that work is not in general circulation, I have taken this mode of laying them before the public, with some additions.

Hanover Street, Nov. 1808.

II.

Observations on the Utility of Venesection in Purpura. By C. H. Parry, Physician, Bath.

In the remarks on the last part of Dr Willan's Essay on Cutaneous Diseases, contained in the 115th number of the London Medical and Physical Journal, speaking of sea-scurvy, the writer observes, that all the cases of purpura "have so near an affinity with it, that if they are really different, we wish the author had accurately marked the distinction." After which, he quotes Dr Willan himself as saying, "cases of purpura seem to have been studiously multiplied in periodical publications, and in medical and chirurgical miscellanies. I consider it, under all the forms described, as pertaining to scurvy." These, I presume, are the popular opinions on the subject. Whether they are universally just, may be learned from the following cases.

Ten or twelve years ago I was sent for to attend a lady about 50 years of age, of a fair complexion, and rather full habit, who for some days, had laboured under slight febrile symptoms, with a full pulse, though but little thirst or fur on her tongue. Nothing else was worthy of attention but the state of her skin, which was thickly sprinkled with spots, small, and of irregular forms, not raised above the surface, of a dark logwood colour, and in no degree evanescent on pressure. An apothecary in this city, Mr Forster, had, previously to my visit, taken from her arm at least 14 ounces of blood, which I saw in a bason, and the surface of which consisted of a crust of coagulated lymph, as thick and tenacious as I ever witnessed in the most acute case of rheumatism, pleurisy, or hepatitis. The cruor was also very firm and cohesive, and difficult of diffusion when shaken in the serum; notwithstanding which, the proportion of the whole crassamentum to that of the serum was uncommonly great. The patient expressed so much relief from the bleeding, that I thought myself justified in ordering it to be shortly afterwards repeated. Relief was by this measure again obtained; and, under the use of some common refrigerants, the lady quickly recovered, without bark, or any other of those remedies usually dignified with the name of tonics.

Soon after this I was called to visit Colonel A., a gentleman well known in the fashionable world, in conjunction with Mr Atwood, then justly eminent as a practitioner in surgery, and now not less conspicuous for acuteness of discrimination, and inflexible integrity, in his character of first magistrate of this city. Colonel A. had been rather a free liver, and was suffering under considerable fever, apparently connected with violent inflammation of the testicle, which was not of a venereal origin, but afterwards ended in hydrocele. The pulse being very hard and strong, the heat great, and the urine high-coloured, Mr Atwood was extremely desirous of taking away blood, but was deterred by numerous logwood-coloured flat spots, which appeared on the skin, of different forms and sizes, some small, others as large as a silver penny; some round, others oblong, and of various diameters, relatively to their length. These spots, as in the former case, were evidently ecchymoses, or extravasations of blood; the disposition to which was so great, that if you pressed the skin with your finger, a deep purple vibex, of a corresponding shape, exhibited itself in a few hours on the part so touched.

Satisfied, from a comparison of the present case with that before described, that no hazard would arise from blood-lettings, we agreed that the operation should be performed, at first moderately, and afterwards more freely, as circumstances might require. The first bleeding afforded immediate relief, and, after a second, the pulse was soon reduced to its natural state, the spots gradually disappeared, and the petechial disposition entirely ceased. The blood drawn had precisely the same appearance and tenacity as in the former instance.

These cases strengthened an opinion which I more than twenty years ago maintained, and which a large subsequent experience has tended to cônfirm,—that in various diseases, among which may be reckoned inflammations, profluvia, hæmorrhages, dropsies, exanthemata, and other cutaneous eruptions, and even the generality of nervous affections, there is one circumstance in common, which is an over distention of certain blood-vessels, arising probably from their relative want of tone, or the due contraction of their muscular fibres.

In order to prove and illustrate this system, which has necessarily led to important deviations from the common routine of medical practice, I am every day collecting facts, which I hope one day to be able to arrange and lay before the public.

In the mean while, whatever may be the nature of sea-scurvy, or of purpura in general, of which every experienced medical practitioner must have seen numerous examples, there can be little doubt, that the cases which I have related are to be considered as of the nature of what are called active hæmorrhages; since it matters not, in a pathological view, whether febrile extravasation of blood takes place from the rupture, or gaping of an artery in the cellular membrane, in the skin, or on the surface of the epithelion, in the nose, fauces, or bronchia.

Bath, Sept. 12. 1808.

III.

Observations on " An Instance of Condensed Lungs ;" Published in the Edinburgh Medical and Surgical Journal, Vol. IV. p. 301. By another Physician.

HAVING read an article in your last Journal, entitled, " An instance of condensed lungs, related with the view of inquiring

ing, whether or not this morbid state ought to be considered as of a different kind from inflammation, or other diseases already distinguished ?" I have ventured to give my opinion of the disease, and to make a few observations on the remarks subjoined by the relator, in which I hope to prove, that his patient really laboured under p[illegible]eumony ; and that both the symptoms, during its progress, [illegible]d the appearances upon dissection, were conformable to what we should expect, from our present knowledge of the pathology of this disease, as delivered by our best practical authors.

Previous to a consideration of the case itself, I must endeavour to controvert some conclusions your correspondent appears to have drawn, and which, I think, are not warranted by the premises ; for, if I succeed in shewing that his reasoning, upon the facts stated, is erroneous and inconclusive, and thereby overturn the hypothesis upon which he accounts for all the symptoms, without the presence of inflammation, I shall the more easily be able to establish my own opinion, that this disease, in the progress of the symptoms during its continuance, its termination, and in the appearances on dissection, really accords with our best detailed histories of peripneumony.

Your correspondent is aware, that the disease he has described would be referred to inflammation, and this he attributes to *a propensity to generalize*. Surely there is some incorrectness in this expression ; if there are certain diagnostic signs, by which the presence of inflammation is denoted, or certain effects consequent to it, and all or any of these are discovered in a patient, can we do otherwise than refer the whole of them to the primary disease, of which they are the pathognomonic symptoms, in preference to arbitrarily setting up one of those symptoms as a distinct disease ? Is it more just to say, that the effusion of watery fluids, and of coagulated lymph, are the *effects* of the condensation of the lungs, than that the latter is owing to the former ? since your correspondent acknowledges, that *all* of them *(even condensation)* " are effects frequently of inflammation." The argument of this gentleman seems to resolve itself into this ; condensation of the lungs " is frequently an effect of inflammation." In the present instance, condensation was the original disease, and produced all the symptoms. He supports his argument by this reasoning ; when condensation and effusion are the effects of inflammation, " they are attended by decisive and peculiar signs, viz. redness, thickening or enlargement, adhesions, pus, and, previously to death, by symptoms of general, or at least *local* inflammatory action." In this case, he says, none of those circumstances

stances took place; there were "neither symptoms of pleurisy, peripneumony, *nor of pneumonia.*" Let us examine what the symptoms were, and compare them with Cullen's definitions. We will first take the general character. "Pyrexia; dolor in quadam thoracis parte; respiratio difficilis; tussis." This patient "was seized with *pains of the chest*, *shortness of breath*, a *little dry cough*, and a *shivering fit.*" "The pulse was small and quick, the heart beating strongly." The pulse continued "very small, and at the rate *of* 150 *beats in each minute.*" "Thirst had come on, and extreme anxiety was manifest." "The chief complaints were pain of the right side, and want of breath, with debility." Thus far the symptoms accord with the description of pneumonia; yet your correspondent says, "it seems against experience and analogy, that, for three or four days, inflammation of every part of both lungs should exist, *without the symptoms* of that disease." He asks "what occasioned the consolidated state of the lungs?" I answer, the same inflammation which produced the pain, cough, difficulty of breathing, and other symptoms; for if these latter depended upon the condensation of the lungs, how happened it that they were most severe in the incipient stage of it, before the condensation had attained its utmost extent; or does your correspondent imagine, that the "relief of the more urgent symptoms on Monday morning," was owing to a diminution of the condensation, and that afterwards it again recurred? The author of the paper places great reliance upon certain circumstances in the present case, whereby it can be distinguished from "other well known thoracic affections," viz. the absence of "orthopnœa, of buffy blood, of hard pulse, of white tongue, of expectoration, and but little of cough, or any other particular." There must have been orthopnœa, or dyspnœa at least; for he tells us, that he first saw the patient lying "upon her back, making exertions for breath;" and that "the chief complaints were pain of the right side, want of breath," &c. Buffy blood is not always seen in inflammation of the lungs; indeed, many well known circumstances will prevent this appearance on blood, even when there is a hard pulse: As your correspondent did not see the patient until eight ounces of blood had been drawn, is he certain the pulse was not hard in the beginning? However, the absence of this symptom does not distinguish this case from peripneumony, since it is described by Cullen to be accompanied by "pulsu non semper duro, aliquando molli." White tongue is a symptom of high general inflammation in the system, which sometimes follows an attack of pleurisy in strong and full habits; but in weak and delicate constitutions, peripneumony frequently exists, without producing such general affection. Expectoration, though a symptom of peripneumony, does not always come on at its first attack, but in its progress, and frequently carries off the disease; yet, even where there is a tendency to expectoration, copious blood-letting, in weakly habits, will check it.

It appears that, upon dissection, "a little semi-transparent, seemingly coagulated lymph, was found adhering to the pleura of the right side, and about 8 ounces of water were taken out of the cavities of the chest:" these appearances, your correspondent did not expect, "because" he says, "of the absence of the signs of inflammation." If my former remarks are correct, they will also apply here.

Upon the whole, I cannot help thinking, that your correspondent has totally failed in attempting to prove the disease, in the present instance, to have been entirely unconnected with, and independent of inflammation; and I trust that he will, upon my view of the case, agree with me in considering it as true peripneumony in all its essential symptoms, for he must be aware, that we can never expect, in real practice, to see diseases marked by such regular and precise limits as are laid down in nosological definitions. Symptoms will be so variously combined and modified; so many accidental anomalous ones will be added to those essentially marking the primary disease; that nothing but long attendance at the bed-sides of patients will give us a facility of dicriminating, and enable us to understand, from a comprehensive view of the natural progress of a disease, how far we may interfere towards assisting the efforts of the vis medicatrix naturæ, without interrupting them, or to know when it will be practicable to supersede them altogether, and institute an artificial cure of our own, which may sometimes be done with advantage.

From the first symptoms observed in this patient, I conclude she was attacked with inflammation of the lungs, accompanied *by symptoms of the first stage of fever.* Being a female, and in the sixth month of pregnancy, perhaps she is not to be considered as of a strong and full habit, therefore I should not expect much general inflammation of the system, as indicated by a full hard pulse, and buffy blood; these are more frequently produced by the local disease, when it has continued some short time, and when the pleura, rather than the substance of the lungs, is inflamed. In the present case, as there [illegible] a combination of peripneumony and fever, it would be extremely difficult, if not impossible, to remove the local disease completely, while the fever was going through its progress; bleeding to a great extent, therefore, would not be attended with such happy effects as in some other cases, and it often lays the foundation of effusion, when practised beyond what is necessary to diminish the *strength, and fulness, and hardness* of the pulse, when they are present. Debility was present in this patient, and would be increased by the progress of the fever, which afforded but little hope that she would be able, under repeated bleedings, to support her strength till the seventh day, before which we could scarcely expect the disease to be terminated by resolution and expectoration. Admitting, that in this patient (as sometimes happens), the inflammation arising in the first paroxysm of fever, carried off the fever, while the inflammation itself remained; still, if the inflammation is not very soon removed, it has a certain progress to run towards a natural cure, and copious bleedings frequently retard and impede that natural cure, without effecting the artificial one we are attempting by them.

I do not mean to imply, by these observations, that bleeding in the present case was carried to an improper extent, or that the treatment throughout was not the most judicious that could have been adopted; I only wish to infer, that the progress and termination of this disease correspond with what we might expect to be the case in inflamed lungs; and respecting "the rapidity of its progress," I may observe, that peripneumony frequently proves fatal on the 5th day, when dissection commonly shews us the appearances in the thorax mentioned by your correspondent.

What practical benefit would arise from considering the case related by your correspondent as different from pneumonia, "or other well known thoracic disorders?" or how the existence of condensation of the lungs, as an original idiopathic disease, is to be distinguished from inflammation of that viscus? or whether, if it were possible so to distinguish it, any and what peculiar treatment is adapted to that state? are questions it would afford me satisfaction to see answered; and I hope I shall be excused in offering to become your correspondent, under the signature of

ANOTHER PHYSICIAN.

London, August 1. 1808.

IV.

Experiments, shewing that a Mineral Poison may produce sudden and violent Death, and yet be incapable of Detection in the contents of the Stomach. By JOHN BOSTOCK, M. D. Liverpool; in a letter to Dr DUNCAN, jun.

In compliance with your request, I send you an account of some of the experiments which I made to illustrate the question, which was proposed to me at the late memorable trial at Lancaster, Whether it was possible that a mineral poison might produce sudden and violent death, and yet be afterwards incapable of detection in the contents of the stomach? You have already seen, in the pamphlet that was published by Drs Gerard and Rutter, Mr Hay, and myself, the effect that was produced upon dogs by the oxymuriate of mercury. We there relate the result of two experiments, in which it was given to dogs in solution; vomiting, purging, and the symptoms of violent pain ensued, which after some hours were terminated by death. The contents of the stomach, it is there stated, were analysed by me, but none of the sublimate could be detected. In the first experiment, 1¼ grains of the salt were given, and in the second 4 grains; this latter being the larger quantity, and also the one in which the process was conducted with the most accuracy, I shall confine myself to relate the circumstances of this alone.

When the stomach of the dog was opened, a small quantity of water was added to wash out its contents more completely, making the whole somewhat less than one ounce. It was deeply tinged with blood, and I let it remain at rest for 30 hours, in order that the colouring matter might subside from it. It had then acquired a very fœtid smell, and not being much clearer than at first, I added to it about an equal quantity of water, and passed it, first through a linen strain, and afterwards through a paper filter. It was now nearly transparent, but slightly tinged with blood.

A solution of the oxy-muriate of mercury was prepared, containing $\frac{1}{1400}$ of its weight of the salt. Into a quantity of this solution the recently prepared muriate of tin was dropped, which produced an immediate and very copious precipitation. Caustic potash also threw down a precipitate, although in small quantity. The same tests were then added to the fluid taken from the stomach, but no effect was produced by the muriate of tin for some hours, when at length it became, in some degree, opake.

The effect here, both as to time and the nature of the appearance, was quite different from the precipitate in the solution of the oxy-muriate of mercury, and I considered it as depending upon the action of the muriate of tin upon the mucus. In proof of this, when the stomach fluid had potash added to it, instead of having a precipitate thrown down, it was rendered more transparent than before the experiment. The solution of the oxy-muriate of mercury was subjected to the action of galvanism, by having a piece of gold placed in it, clasped by a zinc wire; in an hour the gold was obviously whitened by the precipitation of the mercury upon it. The fluid taken from the stomach was submitted to the same process for 3 hours, but no effect was produced*. The fluid from the stomach did not exhibit either acid or alkaline properties; it was copiously precipitated by the nitrate of silver, shewing that it contained muriatic acid.

On the following day, a slight brown precipitate had subsided from the stomach fluid, and the whole was become very opake. The precipitate was dissolved by potash, at the same time that the fluid was rendered more transparent. It was become extremely putrid. The putridity increased, and, in two days more, a scum was formed on the surface, and the sides of the glass were also encrusted with a grey matter. The experiments were performed between the 17th and 22d of August.

The following experiments were then made on the oxy-muriate of mercury, with every possible attention to accuracy. Two grains of the salt were dissolved in 600 grains of distilled water. This I call solution No. I. Ten grains of No. I. were then added to 90 grains of water, forming solution No. 2, in which the fluid would contain $\frac{1}{30000}$ of its weight of the sublimate. Into 10 drops of No. 2. two drops of the muriate of tin were added, and caused a very obvious precipitate. Ten grains of No. 2. were added to 90 grains of distilled water, making the fluid to contain $\frac{1}{3000000}$ of its weight of the salt. Into 10 drops of this solution, two drops of the muriate of tin were added, and an immediate grey cloud was perceptible in the fluid, although no precipitate was thrown down. The galvanic process was repeated with the solution No. 3.; it remained six hours, and I thought I perceived a whiteness on one part of the gold; but it was not very distinctly visible.

From these experiments, we may draw the following conclusions:—

1. The fluid taken from the dog's stomach contained muriatic

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* This experiment was performed at the suggestion of Dr Wollaston.

acid, probably in the form of common salt, and animal matter, probably mucus, in considerable quantity.

2. The tests that were employed to discover the oxy-muriate of mercury, were capable of detecting it in a fluid, when it composed only $\frac{1}{3\,000\,000}$ of its weight.

3. These tests did not detect any of the oxy-muriate of mercury in the fluid taken from the dog's stomach; it may therefore be concluded,

4. That an animal may be suddenly killed by receiving a metallic poison into the stomach, and yet that the nicest tests may not be able to detect any portion of the poison, after death, in the contents of the stomach.

This conclusion appears incontrovertible; and though some analagous facts had occasionally been noticed *, it is so different from the generally received opinion upon the subject, that I think it must have considerable influence on all future judicial proceedings, in which the question of poisoning is agitated.

Liverpool, Nov. 19. 1808.

V.

On the Origin of Calculi. By James Barlow, Esq. Surgeon, Blackburn, Lancashire.

In the 14th Number of your Journal, there are some queries respecting calculous complaints, and the average of success attendant on the operation of lithotomy, which have induced me to present you with the folllowing remarks: Should they be deemed of sufficient importance for insertion in your next number, they are at your disposal for that purpose.

The general opinion, that what is called hard-water, when taken into the stomach as a common beverage, predisposes persons to the disease of stone or gravel, by a specific mode of action and affinity with the urine, appears to me to have little or no foundation in truth; nor will calculous affections, on a minute inquiry, be more frequently discovered in one country than another.

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* Hoffmannus de veneni dati accusatione.

Were it possible to institute a ratio of the comparative number of stone patients in the various counties in this kingdom, according to the aggregate of inhabitants in each, it is more than probable that the difference of result would scarcely be noticed: this conclusion, then, leads me to believe that water, even when impregnated with sulphat and carbonat of lime, possesses no inherent power in predisposing persons to this disorder. It is stated by the querist in your Journal, that the county of Norfolk produces more instances of calculous affections than that of Lancaster, although the water in each is equally impregnated with earthy matter. Whence (says he) the origin of this vulgar error?

The popular opinion of this complaint being endemic, may, I conceive, arise from the circumstance of some resident surgeon having gained celebrity in this particular branch of chirurgery, which induces those who are afflicted with this malady to apply for relief, when, otherwise, they would, in all human probability, have died without having the stone extracted, or even the disease discovered, by those less competent to undertake the operation.

I am not acquainted with the relative frequency of calculous cases which any particular county produces, or the average number of stone patients admitted into the different hospitals in this kingdom, nor the result of success consequent to the operation; nevertheless, some inference may be drawn from the relative number of cases in this part of the county, compared with other districts, when it is known, that during the period of the last seven years I have operated for the stone thirteen times in this town and neighbourhood, on patients from the age of two and a half years to that of fifty, and in every instance (except one) with success *.

In allusion to the popular opinion respecting the tendency that water, when impregnated with earthy matter, has in producing stone in the bladder, I will refer the reader, as a proof of the antiquity of this prevailing prejudice, to sect. 3d. page 68, of Hippocrates de Aere, Locis, et Aqua, where he says, "The waters of rivers or lakes into which different streams fall, or of other places into which they have at times accumulated themselves, are apt to produce the stone; for, being composed of many different sorts, some sweet, others salt, or aluminous, they must deposit a sandy sediment. Persons whose bowels and bladders are

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* It may be necessary to state, that I do not operate with that dreadful instrument the gorget.

are in a soluble state, may escape sabulous collections; but those of a more fiery habit, when the mouth of the bladder is attacked with inflammation, cease to make water freely, and then the gross sandy parts of these waters deposit themselves, whilst the more fluid particles are let out," &c. &c. In another part of the same author's works, he attributes the stone in children to the impure milk of nurses.

I am aware, that the proximate cause of the production of urinary calculi is involved in much obscurity; yet it appears to me, that the disease does not originate, so much as has been supposed, in the uriniferous vessels of secretion in the kidneys, or in the urine secreted therefrom, as in the mucus produced from the inner surface of the bladder, and sides of those organs and cavities through which it naturally passes from its source in the kidneys to the termination at the prostate gland.

The peculiar construction and disposition of the prostate gland to generate calculi, may be one cause why men are more subject to the disease than women, seeing they are destitute of that organ; and we frequently read of calculi being found in this appendage to the bladder, and also of their existing spontaneously in other cavities of the body; such, for instance, are the intestines, uterus, stomach, gall-bladder, lungs, and cavities of the joints in gouty habits.—See Baillie's Morbid Anatomy, Morgagni's Epist. Lieutaud, Boerhaave's Commentaries, and Memoirs of the Royal Academy of Surgery at Paris.

These depositions of earthy concretions, I conceive, abound more frequently in those reservoirs of the system where there is the greatest quantity of mucus secreted, and where it is pent up in certain parts of the body, than in those cavities from which there is a greater facility for the fluid to escape from the part where it was deposited; hence, may it not be reasonable to infer, that the proximate cause of urinary calculi exists in an over degree of stimuli affecting the urinary organs, and thereby producing an excess of inspissated mucus on the inner surface of the bladder, and a morbid state of those membranous cavities, so essentially necessary for the performance of their healthy functions. These superabundant secretions may become stagnant in the excretory ducts and rugæ of the bladder, and, by chemical affinity with the urine, calculi may probably be generated. On the same principle, any foreign substance accidentally lodged in the bladder, may excite a certain degree of inflammation, and coagulable lymph or mucus be thrown out in the cavity of this viscus, which, by a specific attraction with the extraneous body, a nucleus may be thereby formed; hence, we frequently see the surface of a stone, recently extracted from the bladder, covered over with mucus, which, I conceive, has in some instances been the cause of the stone not being so distinctly ascertained by the surgeon when sounding the patient, prior to the operation of lithotomy.

To conclude these remarks, I will hazard an opinion, that as we frequently meet with children who are afflicted with the stone in the bladder during infancy, and who have been exempt from the causes before mentioned, and also with fœtuses, in whose bladders much sabulous matter is deposited in their urinary passages during their stage in the uterus, may they not be sometimes born with the disease?

Blackburn, Lancashire,
November 19*th* 1808.

VI.

Observations on the Use of Arsenic. By G. N. Hill, Surgeon, Chester.

To the Editors of the Edinburgh Medical and Surgical Journal.

Gentlemen,

Some few years ago, the following question was stated in the periodical medical publications, as the foundation of a prize essay. It never fell in my way to learn whether it was discussed; but the subject having, for many previous years, appeared to me one of great consequence, I collected together a few notes, with a view to publication, which, from causes needless to explain, have since lain dormant. They are now at your service, if you think them worth insertion in your useful Journal.

Question.

"*The Medicinal Effects of Arsenic, externally and internally applied.*"

> "Even arsenic itself, the most virulent and unmanageable of all poisons, by the "skill and attention of physicians, has been reclaimed from the class of mis-"chievous substances, and, by a diminution of the dose, is held, on good "authority, to be a safe and useful remedy."—Haygarth on Fever.

At a time when the medical virtues of a number of the vegetable poisons are rendered safely subservient to the purposes of science, it is certainly an interesting inquiry, what progress has been made in appreciating the value which ought to be set upon the known properties of some of the most active mineral productions? amongst which, it will probably be no difficult task to make it appear arsenic is entitled to hold a situation of eminence; and that, notwithstanding the dread which has long attached itself, even to its bare name, I hope, from several sources, to be able, with some degree of certainty and precision, to shew, that this powerful agent of the medical art has been too much neglected, and that principally from two causes;—first, a mistaken notion of its absolute deleterious effects on the human body, under all circumstances; secondly, a want of attention to ascertain the exact and salutary mode of its application. Time will not be misapplied in attending alike to these two statements.

It is not necessary, nor will the purport of this paper be promoted, by an elaborate inquiry into the origin or natural history of this metallic production, it being sufficient for the present purpose to suppose, that all who feel such an interest in the investigation of the question stated, which it certainly deserves and demands, either are, or immediately will make themselves masters of the subject, so as to go along with the present inquiry advantageously. Few of the chemical works of celebrity are deficient in information on this subject; I wish it, therefore, to be understood, that the preparation which I consider as the foundation of the few formulæ I have been in the habit of using, is the clean, fresh prepared, and finely powdered arsenic of the shops. The cautious timidity manifested by the practice, and avowed in the writings of our predecessors, in respect to this poison, can scarcely be matter of wonder, when we reflect on the dreadful consequences it is capable of producing, when applied to the human body. From witnessing scarcely any effects but the most terrifying and obnoxious, they drew hasty conclusions, suggested by their fears, that it was too active a weapon to be managed with any tolerable degree of safety, and hence its utility almost ceased to be the object of inquiry; but it reflects great honour upon modern researches, and liberal experiments, that much of what may be termed the lumber of the shops, is justly abandoned to make room for agents, whose activity and usefulness require only to be better known, in order that they may be more generally employed.

To Dr Fowler, the medical world stands much indebted, for his accurate attention to the power and salutary effects of arsenic judiciously administered; and all those practitioners, whose practice has been most intermixed with cases of intermittent fever, treated by the tasteless ague drop, will doubtless bear testimony to the safety with which this Herculean remedy may be administered.

ministered. But, notwithstanding intermittent fever in its most formidable shape has been cured by the arsenical solution, yet there have not been wanting alarmists to excite the fears of the timid, that the medicine created more mischief than it had removed, in various shapes, as tendency to hepatic obstructions, phthisis, asthma, &c. Of such results, I confess my entire ignorance. That such may have seemed to have occurred, I am far from attempting to deny; but I must continue to disbelieve they have happened when this poison has been administered with all that caution its great powers demand, and which has so diligently and successfully been employed, in respect to others, upon proper subjects. I adduce intermittent fever in its most hostile form, as that disease which must ever be highly illustrative of the tonic effects of arsenic. Impartially calculated, who will fail to decide on the positive value of that medicine, which can cure such a disease with speed, safety, and in the form of a few drops, after it has continued for weeks, or months, in defiance of disgusting quantities of cinchona, and all the minor tribe of tonic febrifuge remedies. Still I conjure my readers not to hastily conclude I am aiming at the establishment of a more extensive use of such a medicine, as arsenic is well known to be, when others, less dangerous, and as certainly curative, will answer every purpose of the prescriber and his patient, this being by no means the case. I merely contend, that terrific and mistaken apprehensions have caused it to be neglected, where its administration might have been greatly and safely beneficial. In some degree to dissipate these, consists my present intention; but never to bring forward a virulent poison as a healthful remedy to the exclusion of any other, not of this description, and which is equally salutary. To hesitate about preference here, would perhaps fall little short of criminality.

Secondly, "Want of attention to ascertain the exact and salutary mode of its application." Such have always hitherto been the antipathy to, and dread of arsenic, as an article in the list of curative remedies, that little attention has been bestowed upon the various preparations of which it is capable. The consequences are natural, and evident; they have been very limited and ill defined. Had not such prejudices existed, to almost universal extent, this semimetal would have undergone many more experiments than it has yet suffered. Hence, it will be no presumption to assert, that if the subject of this question had not had such obstacles to encounter; and, on the other hand, had experienced the attention which has been bestowed upon mercury, antimony, &c. &c. it would have been found as extensively useful an article as either of them. It appertains to the vile practices of charlatanism, to announce concentrated preparations of certain powerful drugs, and ignorantly to boast of specifics for every disease; but men of just and enlightened views of science, with honourable intentions, shrink from even the appearance of mystery, and have but too frequent cause to lament the scantiness of powerful agents, to counteract the multifarious evils "flesh is heir to." That arsenic is a remedy of the description called tonic stimulant, is sufficiently ascertained; that it possesses great power in a very contracted sphere, when compared with others of this class, is no less certain; finally, that its deleterious effects are as much under subjection as those of mercury, opium, antimony, &c. &c. is, or may be satisfactorily known.

A saturated aqueous solution appears to be the most simple formula, and that which comes nearest to certainty of uniform strength of any other. Where the disease, its remedy, and the subject of both, can be judiciously adapted to each other, this medicine, from its great power in small volume, possesses decided and incalculable advantages. The sanguine wishes of young practitioners often lead them to attack violent diseases by very enormous doses of medicine, thinking to mow down, as it were, all opposition to their wishes, by a coup de main; but the mineral solution of arsenic is a weapon that will not admit of loose and inattentive application, in the hands of careless or over eager practitioners, with impunity. It is almost superfluous to observe, its administration must commence with very small doses, when exhibiting it for the first time, and that its effects cannot be too narrowly watched: for there are to be met with certain habits, whose idiosyncrasy will cause it to be rejected, notwithstanding every precaution, in whatever dose given, or under whatever form; but this, it is well known, is not exclusively the case with regard to arsenic, the fact resulting from opium, digitalis, mercury, and even the bark itself. I lately attended a gentleman, whose case appeared to indicate the use of this last mentioned valuable remedy; it was given in the simple form of decoction; a dose or two induced such feelings as are better comprehended from sensation, than learnt from description. He soon informed me what he had been taking, although not apprised of the composition of his draughts; the medicine was then tried in another form, but was instantly discovered. "Sir," said he, emphatically, "you have been giving me bark again, and I cannot bear it." Such will occasionally be the case with arsenic; it is, however, in this view, but on an exact footing with other remedies deemed sufficiently mild to persons in general. Symptoms announcing its disagreement are, nausea, pain, with a sense of contraction of the stomach, horripilatio, thirst, with a clammy tongue and fauces, increased by drinking any fluids, milky or oily ones excepted; strong feelings all over the body, such as were never experienced by the patient before, on any occasion, and which he is at a great loss to find words to describe. In children, incapable of giving any description, its disagreement, whether from idiosyncrasy, or over-dose, may be known, by its producing, soon after being taken, nausea, paleness of the lips, sleepiness, clamminess of the skin, at length vomiting, or purging, with great restlessness; but justice demands (from me at least) the acknowledgment, that few such instances have fallen under my notice. It would be sacrificing time to point out what mischiefs have originated from want of attention to these circumstances, consonant to the position advanced, and in direct opposition to that accurate care and close attention, which all other Herculean medicines require, and have indeed generally received.

The next arsenical remedy which deserves notice is a pill, the formula of which will be found in the 2d volume of the Asiatic Researches.—" Take of recent white arsenic 105 grains, black pepper, 630 grains, beat well, in an iron mortar, for four days, at intervals; when reduced to an impalpable powder, remove to a stone mortar, add water by degrees, so as to form a mass of a pilular consistence; make pills of the size of tares, or small pulse (about 800); keep them in a dry and shady place; give one night and morning, with a little cold water; gentle cathartics precede their use with considerable effect." These pills are most conveniently preserved for use in a stone-bottle, originally destined to convey quicksilver. In the above work, arsenic is recommended as very useful in the cure of paralysis and cutaneous diseases; but too little is said on the subject.

I think no mode of using it externally is mentioned; hence, the same errors are liable to operate, as have too often done, from its internal exhibition: for example, in the 1st vol. of the Medical Journal, p. 508, the case of a young woman is related, (by a Swiss physician), who had rubbed her head with an arsenic pomatum to destroy vermin; the consequences, in six days time, were excruciating pains all over the body, a general millet-seed like eruption, covering the whole surface, violent swelling of the head, and with much difficulty she grew better. Now, from this narration what can be learned? We know nothing of the proportion of ingredients of this deleterious unguent, nor the quantity applied in the time specified; but judging from what may be every day seen in this country, when ignorant persons are entrusted with active remedies, without due precautions, it is reasonable to conclude the young woman was very bountiful in the use of what was to free her from her troublesome company; most practitioners having cause to regret how difficult it is to excite and procure due attention to the precise dose, and exact periods of administration of medicines, more especially those, which, from their minuteness, are conceived, by ignorant persons, to be of little consequence. Arsenic then, is, perhaps that very remedy, in many violent and obstinate diseases, which can be advantageously exhibited in the smallest quantity, and with less necessity for augmentation of dose than any other, demanding simply, what every active medicine demands, attention, to render it generally and highly useful, as exemplified in the removal of the whole tribe of fevers and asthenic diseases, painful, local, or partial affections, and many tiresome cutaneous derangements; when acting favourably on the stomach, producing in a few doses, and in a short time, a greater quantum of increased tone of the system, than can be obtained by any other known agent. All circumstances proving favourable, the solution of Dr Fowler, the simple saturated solution, and the Asiatic pills, have been found, for many years, extremely beneficial, and much to be relied upon in the removal of the following diseases.

FEBRIS INTERMITTENS.

Specifics are nowhere to be found, or the arsenical solution might, in the cure of this tormenting malady, justly lay claim to the boasting title, and that with more propriety than even the bark itself. The differences of susceptibility of animal organization to admit similar impressions, is as extensively variable as the human face; nor is this difference restricted to different individuals, but embraces, with scarcely less force, the changes liable to occur in one and the same subject, which truths afford a wide range for the exercise of medical sagacity: hence one fact is prominent, and directly deducible, that uniform results must never be expected from any medicine whatever; nevertheless, when directing the use of remedies of extraordinary activity, it is the duty of the prescriber to establish, as accurately as possible, those precise circumstances, under which their remedial powers act with most certainty, never losing sight of those rational doubts which will enable him advantageouly to encounter any sinister event. In the administration of arsenic in this fever, and also in the anomalous fever of children, attributed sometimes to worms, sometimes to other causes, the best form is the solution: no particular preparation is necessary by other remedies, if the stomach and bowels be regular; but where frequent sickness, diarrhœa, or costiveness prevail, these must be removed, or, at least, as much regulated ed as practicable. The interval of febrile paroxysm is the best time to commence the use of the solution. To an infant of three years old a single drop from an half-ounce phial twice every twelve hours, will often prove sufficient; when it does not, two will rarely fail; for older subjects, the dose may range from two to five or six drops in the same period; and to adults, whatever type the fever may assume, from six to twelve drops from an ounce phial, combined with an equal portion of tinct. lavend. comp. aromat. &c. at the choice of the prescriber. When the disease gives way, it will rarely be obligatory to continue the medicine longer than three or four days subsequent to the last febrile paroxysm, unless the subject has been long ill, and is now much reduced by disease: in such cases an occasional recourse, at short intervals, to the accustomed dose, may be advantageous, until health is finally restored.

TYPHUS.

Notwithstanding the valuable attempts which have been made to prevent and to cure this formidable species of fever, its recurrence is still sufficiently frequent to produce much distress, and its termination often fatal to subjects of all ages; nor is it so readily influenced by the action of the most vigorous of our remedies as other violent diseases, often running its course without even certain evidence of a temporary check from the best management; yet it rarely happens that a considerable space of time does not elapse between the first application of the exciting cause, and the more evident febrile attack, nature acting here, as in other formidable diseases, by certain indicatory movements, expressive of her attempts to repel the further admission of the mischief, as is strikingly seen in the syphilis, the inguinal bubo succeeding chancre being an effort of this description: so in typhus, when a person has been sufficiently exposed to the influence of the exciting cause, under circumstances incapable of resisting its malignity *in toto*, certain abhorrent symptoms (if I may so express myself) announce the approaching danger; and these repulsive efforts will in some subjects exist for a considerable period, before pyrexia and its concomitant evils are fully developed. They consist of an unusual disposition to ennui, languors, lassitude, muscular weariness; the patient complains of an uncomfortable and very singular feel all over him, great mental anxiety, general disturbance, and irregularity in all the natural functions; precisely under such circumstances as these, is the arsenical solution found to be a remedy upon which great dependence may be placed; but its exhibition should be preceded by moderate evacuants, appropriate to circumstances,

cumstances, particularly mild cathartics, the matter expelled by them receiving due attention; and although at first, or for some days, this may be very irregular, yet the medicine may be now administered, and its primary effects be discovered, by a favourable change in the fæcal evacuation: whenever this takes place, with general improvement, the pending evil will most assuredly be put aside. Typhus is observed on some occasions, especially in aged subjects, to assume a chronic form; and when this happens, the patient is commonly become disgusted with all the various medicines he has been for weeks, or months, forcing down; and it is with difficulty persuasion has influence sufficient to induce a continuance, or a repetition of them. If sickness be not now a very prominent symptom, the arsenical remedies again present themselves, as highly worthy being trusted with the cure, their high tonic stimulating powers, in the smallest possible compass, being no slight recommendation.

OPHTHALMIA CHRONICA.

Every practitioner is habituated to witness the difficulty of curing obstinate inflammation of the eyes, very powerful means being sometimes readily baffled. There exists, occasionally, a very alarming species of this complaint, arising from great relaxation of the membranes of the globe, creating, upon a separation of the lids, a frightful appearance, as though the eye was a mere mass of red flesh. To young practitioners, not yet accustomed to this state of matters, the idea of absolute necessity of speedy recurrence to lowering methods is apt to be suggested: but if through alarm (as alarm is prone to create hurry, and hurry mistake), debilitating means should be employed, certain aggravation of the evil will follow; but if, on the contrary, powerful astringents, with liquid laudanum externally, and the arsenical solution, with cinchona, be exhibited internally, and duly persisted in, the complaint will ultimately yield to returning health.

In some habits, from peculiar idiosyncrasy, in others, from the abuse of the medicine, or mismanagement during its influence, mercury will occasion a peculiar and alarming sore throat, of a very frightful appearance, and considerable difficulty of removal. It is unnecessary, as well as inconsistent with the limits I have prescribed to myself, to enter into a discussion of the history of diseases, the whole intention of this paper being to shew the extensive powers of an hitherto much dreaded medicine, over some of those maladies practitioners find of most perplexing treatment. The species of cynanche, now mentioned, frequently comes under this description; but with appropriate local remedies, it will commonly yield to the action excited by arsenic.

PARALYSIS.

The cause, perhaps, it would not be easy to develope, but the fact, it is presumed, is incontestable, that paralysis ranks high in the catalogue of increasing diseases. Paralytic affections of particular parts are also become alarmingly frequent, as of the face; nor are these complaints more frequent in the subjects of declining life and expiring energy, than in the debilitated debauchee, or enervated female of the more early and middle periods of life. The pilular form of administering arsenic fell in in my way at the time two cases of partial paralysis of the face came under my care. It is recommended in the Asiatic Researches as useful in distortions of the face; I am enabled fully to confirm this report by saying, that the salutary effects of this medicine are scarcely more conspicuous, even in intermittent fever, than in these morbid states of the nervous system, which are frequently so distressingly troublesome, especially to delicate females, labouring under an almost perpetual state of asthenic diathesis. Some weeks past I was called to attend a young woman of this description, who was, after suffering unusual exertion, seized with paralytic distortion of the right side, the face and neck, with considerable alternate pain and torpor. The superior eyelid was drawn upwards, and remained in that situation night and day; the globe of the eye protruded, and inclined forcibly inwards, the tears perpetually rolling down the cheek. With emp. adhæsiv. and compress, the eyelid was kept in its natural situation tolerably well; rhubarb and kali vitriol. procured a gently lax state of the bowels; the arsenical pill was afterwards began, and continued with diligence, until, in about three weeks, complete restoration followed. In violent and sudden attacks of palsy, it is not always in our power to administer solid remedies; hence I have prescribed the mineral solution in a cordial julep with great satisfaction, but the pills, I think, are preferable, as soon as they can be administered. In cases occurring early, or before the middle of life, the violence of the primary attack having abated, and considerable inability to free motion remaining, arsenical remedies will be found very beneficial in restoring the sufferer, and preventing the recurrence of another attack; and that this is an object of high importance, the many unhappy instances of the visible effects of this humiliating malady daily witnessed, is a melancholy proof.

(To be continued.)

VII.

VII.

Biographical Notices of Dr OSBORNE *and* Dr LUBBOCK.

IN the month of August last died, at his country-house, near Dover, William Osborne, M. D. aged 76. Dr Osborne was born in the county of Rutland, where, after obtaining a good classical education, he received the early part of his medical acquirements, under the guidance of Dr John Fordyce of Uppingham. After passing some years with that able instructor, he came to London, and attended the lectures of the late Dr William Hunter, and the practice of St George's hospital. His industry, in the pursuit of knowledge, was much assisted by a memory uncommonly retentive, and a happy art of arranging all that he read and saw, so as to be able always to produce it with great readiness when occasion required. This faculty, aided by a well regulated judgment, probably contributed, in a great degree, to that celebrity which he afterwards attained in his profession. Having finished his studies in London, he went to Paris, where he attended the practice of the Hotel Dieu, and the teachers at that time in highest estimation, particularly the celebrated accoucheur, *Levret*. This gave a bias to his mind, which, fortunately for the interests of mankind, led him into that department of medicine, in which he maintained, for many years, as long as his health permitted, the highest character. On his return from France, he took a professional situation in the Guards, and went with the regiment to Germany, in the war at the end of the last and beginning of the present reign. It is remarkable, that many of the young men, at that time engaged in the army, in the service of their country, rose afterwards to the highest honours, and most distinguished situations in the metropolis. At the conclusion of the war, Mr Osborne settled in London, as a surgeon; but his studies at Paris gave a bias to his mind, and led him to devote his attention to the improvement of midwifery, and the investigation of the diseases incident to women and children. A similarity of pursuits and opinions produced a connection between him and Dr Denman, which led to their association in a plan of opening a school in London, for teaching the principles of midwifery on a liberal and extended scale, and rescuing the practice from ignorance and temerity. The celebrity which their lectures acquired, is a strong proof of their fitness for so laudable an undertaking; and the number of pupils, from every quarter of the world, showed how well their well-earned fame was appreciated. To the combined influence of public teaching, and to the scientific publications of Dr William Hunter, Dr Osborne, and Dr Denman, we are indebted for many improvements in the practice of midwifery, and a better knowledge, as well as a more simple and effectual treatment of the diseases of women and children. Dr Osborne soon rose to great eminence in the practice of his profession, for which he was not more qualified by the powers of his mind, than by a peculiar urbanity of manners and deportment, and a disposition naturally tender and humane. The extent of his practice, and the time which he devoted to study, did not leave him much leisure for writing. He has, however, left behind him a work of great practical utility, on natural and laborious parturition, which will rank him among our best medical writers, whether the elegance and perspicuity of the style, or the manner of treating the subject be considered. The fatigue necessarily attendant on a laborious profession slowly impaired his constitution, and brought on complaints of the stomach, and palpitation of the heart, which induced him, about the year 1800, to retire to his estate at Old Park, near Dover, where he acted as a magistrate for the county of Kent, and was always ready to afford medical assistance to the poor in his own neighbourhood. Here he lived, in learned leisure, in the bosom of his family. About two months before his death, the symptoms of great debility in the stomach rapidly increased: the disease about his heart was very much aggravated, and he was well aware it would terminate fatally. He looked forward to his death with great composure and resignation, and with the humble confidence of a Christian. He retained the powers of his mind, and the vivacity of his disposition, to the last moments of his life, and died almost without a struggle. The whole tenor of his life was useful to society; and his death was such an one as good men might envy.

On the second of September 1808 died, at Norwich, in the 49th year of his age, Richard Lubbock, M. D. after a most painful and protracted illness, which he bore with a manly and dignified patience. To many of the readers of this Journal, it is almost superfluous to say, that he was pre-eminent in his profession; that he possessed, for many years, the public confidence to an almost unexampled degree; and that in extensive usefulness, in skilful, liberal, and humane practice, he has been equalled by few. Dr Lubbock was a native of Norwich: he received the early and classical part of his education at the free school of that city;

city: his medical education commenced with Mr Rigby, an eminent surgeon of that place, under whom he was one of the first pupils who attended the Norfolk and Norwich hospital, then just erected: he studied several years at Edinburgh, and took his degree in that university, in 1784, with great credit, having distinguished himself, by his essays in the Royal Medical Society, and by his thesis, "*De Principio Sorbili*," in which he brought forward the theory of Lavoisier, and the French chemists, and delivered some ingenious and original speculations of his own, which excited considerable notice among the philosophical chemists of that day.

His introduction to practice, on his return from Edinburgh to Norwich, was almost immediate; and, from its earliest period to the moment of his being arrested by disease, he was unremittingly engaged in it: time and talent having, perhaps, in no instance been more uniformly, more constantly, or more undeviatingly directed to the objects of his profession. During his residence at the University of Edinburgh, he adopted some medical opinions, which were then almost peculiar to himself, and at variance with established theories: he attended Dr John Brown's lectures, and became a strenuous advocate for the leading principles of the celebrated Brunonian doctrine; those principles and opinions, however, were convictions in his mind; he conscientiously acted upon them; and his practice, after a careful comparison with the results of other modes, appeared to him justifyingly successful. With an acute understanding, and a solid judgment, he possessed a fondness for scientific inquiries; and his mind was well stored with a fund of medical erudition. His thesis was the only literary production which appeared in a separate form of publication; but he wrote several papers in the periodical journals: an original and elaborate essay on diabetes, and another on apoplexy, signed, a Pyrrhonist, are inserted in the Medical and Physical Journal; and a well written case of catalepsy, was one of the earliest communications to the present work. He also wrote a memorial on vaccination, in 1805, when an attempt was made to extend the benefits of inoculation to the lower classes of people in Norwich. At different times, before his last illness, he had complained of uneasiness in his chest, and suspected some organic disease about his heart. Symptoms of such a distressing disorder appeared in the month of June, and increased with alarming violence till the fatal termination.

Dr Lubbock was married in 1797, and has left a widow, and a large family. His moral character was without a stain, and his private and domestic virtues most estimable.

VIII.

Some Account of Cretinism. By Henry Reeve, M. D. Norwich. *Communicated by the Author.*

Felix Plater, in one of his observations, gives the history of a species of mental imbecility, which he saw in passing through the village of Bremis in the Valais. Cretinism, a word of uncertain derivation, is the name employed by the inhabitants of Switzerland to denote this disease, which is endemial in several districts of that country. It had probably existed long in those parts; for Plater mentions cretins as being very common both in the Valais and in Carinthia, but the peculiar marks of these wretched beings were not generally known before he described them *. Mons. de Saussure has furnished the most minute and accurate account both of the appearances of the disorder, and of the circumstances which seem to produce it; and Mr Coxe and several travellers have noticed the symptoms of cretinism, without adducing any satisfactory explanation of the causes to which it may be ascribed. Malacarne of Turin and Professor Ackermann have given a very accurate description of several cretins that they dissected; and besides some detached essays by different authors, a very full account of this malady is to be found in an "*Essai sur le Goitre et Cretinisme, par M. Fodéré,*" published at Paris in 1800.

My curiosity led me some time ago to inquire more particularly into the nature and causes of cretinism, because it is usually connected with goitre, or bronchocele; I was indeed led to this inquiry, partly by the hope of discovering some function for the thyroid gland, more satisfactory than what is commonly alleged; but in these expectations I have been disappointed.

In the summer of 1805, I had an opportunity of seeing several cretins at Martigny and Sion, and other villages in the Valais; and I was glad to compare what had been written upon that subject, with what my own observation could suggest. By inquiries on the spot, I intended to learn what connection subsisted between weakness of the intellectual faculties and the swelling of the thyroid gland: what were the moral and physical circumstances

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* F. Plateri Praxeos Medicæ, Cap. III. Basil, 1656.

stances which could influence the condition of the inhabitants, so as to make idiocy so prevalent; and what were the most efficient modes of relief. The following results I beg leave to lay before the public.

Cretinism is found not only in the vallies of the Alps, both on the French and Italian side of these mountains, but in the mountainous parts of Germany and Spain; and it was observed in Chinese Tartary by Sir George Staunton, in a part of that country much resembling Switzerland and Savoy in its alpine appearance. The enlargement of the thyroid gland called goitre, is the most striking feature in the unsightly aspect of a cretin; but this is not a constant attendant. His head also is deformed, his stature diminutive, his complexion sickly, his countenance vacant and destitute of meaning, his lips and eyelids coarse and prominent, his skin wrinkled and pendulous, his muscles loose and flabby. The qualities of his mind correspond to the deranged state of the body which it inhabits; and cretinism prevails in all the intermediate degrees, from excessive stupidity to complete fatuity.

At a small village, not far distant from Martigny, I examined four cretins. One lad, twelve years old, could speak a few words; he was of a weak and feeble frame, silly, but had no goitre. Another boy, nine years old, was deaf and dumb, idiotic, with no goitre, the only child of his mother, who has a large goitre which affects her respiration and her voice, though in other respects she is intelligent and well formed, and the father enjoys good health; they are not natives of this place. I saw a family in which all the children were cretins; the eldest died a year ago, a miserable object; the second, a girl, twelve years old, is deaf and dumb and cross-eyed, and has a monstrous goitre, with just intelligence enough to comprehend a few natural signs; the third is a boy six years old, small and feeble, abdomen enlarged, no goitre, very feeble in mind and body, not entirely deficient in understanding; the mother had a moderate sized goitre, but was quite free from any mental affection; the father neither goitrous nor stupid, but of a delicate constitution.

There is no necessary connexion between goitre and cretinism, notwithstanding the assertions and ingenious reasoning adduced by Fodéré. It is probable, the one has been assumed as the cause of the other, from the enlargement of the thyroid gland being a frequent occurrence in cretins; and as it forcibly strikes the observer from the deformity it occasions, this strong impression may have converted an accidental, though frequent occurrence, into a general and necessary cause. Cretinism is frequently observed without any affection of the thyroid gland, and that gland is often very much enlarged without any affection of the intellectual faculties. There seems to be some similarity between cretinism and rickets, as they both take place in infancy, are both characterized by feebleness of body, and sooner or later by feebleness of mind, and they both affect males and females equally; but there is no sort of connexion between persons afflicted with bronchocele in England, and with rickets. For although it might be granted, that there is some delicacy of frame in females about the period of pubescence, when bronchocele usually occurs, yet neither irregular formation of the bones, nor weakness of the intellectual powers, are common symptoms attending bronchocele in Britain.

To what peculiarities, then, in the physical constitution of certain districts, are we to ascribe the production of this singular malady? Saussure's description of the Valais is exceedingly precise and accurate, and the causes which he has alleged appear sufficient to account for the phenomena. The vallies where cretinism is most frequent, are surrounded by very high mountains; they are sheltered from the currents of air, and exposed to the direct and still more to the reflected rays of the sun. The effluvia from the marshes are very strong, and the atmosphere humid, close, and oppressive. All the cretins that I saw, were in adjoining houses, in the little village called La Batia, situated in a narrow corner of the valley, the houses being built up under ledges of the rocks, and all of them very filthy, very close, very hot, and miserable habitations. In villages situated higher up the mountains, no cretins are to be seen, and the mother of one of the children told me, of her own accord, without my asking the question, that her child was a quite different being when he was up the mountain, as she called it, for a few days.

The production of cretinism, by the bad quality of the air and the food, the neglect of moral education, and other evils attendant upon poverty, is supported by facts so pointed, that the greater number of cases in mountainous districts where snow-water abounds, may safely be ascribed to these general causes. The notion of snow-water being the cause of goitre, and consequently of cretinism, seems to have been derived from Pliny (Lib. II. cap. 37,) and copied by almost every succeeding writer, because it coincided with their hypotheses of cold and crude matters, although directly contradicted by facts. In the first place, persons born in places contiguous to the glaciers, who drink no other water than what flows from the melting of ice and snow, are not subject to this disorder; and, secondly, the disorder is observed in places where snow is unknown.

The theory of water impregnated with calcareous matter being the cause, is equally unfounded; because the common waters of Switzerland excel those of every other country in Europe for purity and flavour. There is not a village, nor a valley, but what is enlivened by limpid rivulets or streams gushing from the rocks. The water usually drunk at La Batia and Martigny is from the river Dranse, which flows from the glacier of St Bernard, and falls into the Rhone; it is remarkably free from earthy matter, and well tasted. At Martigny, there are two or three pumps, the water of which is pure, and equally fit for culinary purposes, but said to be unwholesome, without any good reason. At Bern, the water is extremely pure, yet, as Haller remarks, swellings of the throat are not uncommon in both sexes, although cretinism is rare. With regard to the alleged causes of goitre, the general opinion of its being endemial in mountainous countries is of no value, because the disease is rare in Scotland, and very common in the county of Norfolk.

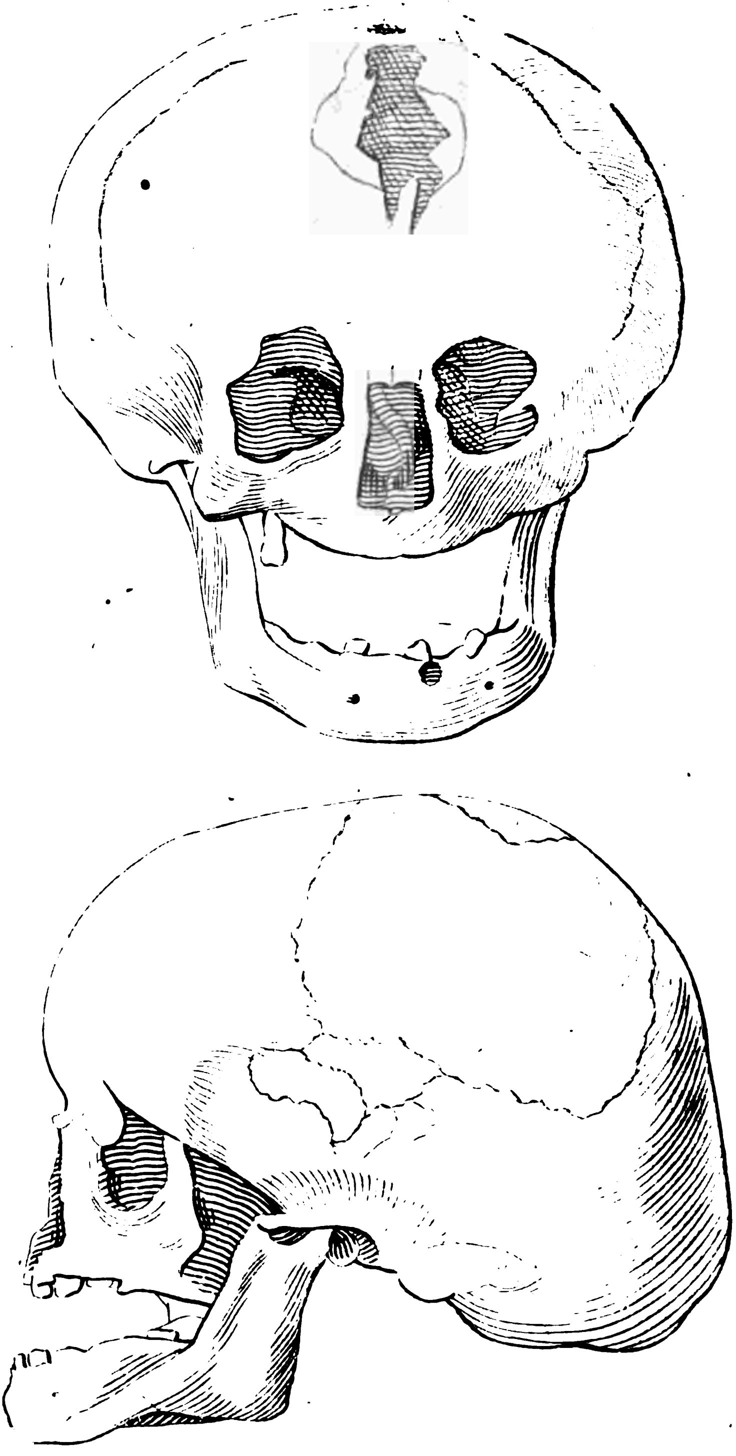
The causes of cretinism begin to operate upon the system soon after, perhaps even before birth; the want of energy in the parent is communicated to the offspring; the children become deformed and cachetic very early in life, the growth and developement of the body are impeded, the abdomen becomes enlarged, and the glands swelled in various degrees; and the powers of the mind remain dormant, or become entirely obliterated, partly from want of proper organization, and partly from the total neglect of every thing like education.

It might be expected, that the dissection of cretins would throw some light upon the series of phenomena associated together in the origin and progress of this singular affection; but the people are so superstitious, that it is very difficult to procure bodies for anatomical examination. However, some dissections have been made, and the appearances in the cranium are very curious. From the description of a cretin's skull by Ackermann, it appears that the cavity for the reception of the pons varolii and medulla oblongata was completely obliterated, and that in which the cerebellum is lodged, so much diminished, that it scarcely exceeded one third of its natural capacity. The return of the venous blood must have been considerably impeded by the mal-conformation of the foramina. Appearances nearly similar were observed by Malacarne and by Fodéré.

In the anatomical museum at Vienna, I saw a cretin's skull, from which Professor Prochaska was so obliging as to permit me to have two drawings taken. It is the cranium of a cretin, who died at the age of thirty, yet the fontanelle is not closed, the second set of teeth are not out of their sockets, and none of the

bones

SKULL OF A CRETIN



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bones are distinctly and completely formed. The head is very large, the face small; it is like the skull of an adult joined to the face of a child; every part bears marks of irregularity in the growth and formation; and irregular action must have been the concomitant of such a morbid structure, whether the appearances be considered as cause or effect.

The four angles of the os malæ are not well defined; the zygomatic and maxillary processes of this bone are wanting; the nasal processes of the superior maxillary bone are very large, and exhibit no marks of union with the os malæ; the ossa nasi are very small; the temporal bone is imperfectly formed; the zygomatic process terminates at the coronoid process of the lower jaw; the mastoid and styloid processes are wanting, and the pars petrosa remarkably small; the squamous portion not distinctly marked; the os occipitis unusually large, and numerous additional bones, ossa triquetra, along the whole course of the lambdoid suture. These appearances will be readily seen by referring to the figures; the other deviations of the natural structure corresponded with those already described by different writers.

There is no fact in the natural history of man, that affords an argument so direct and so impressive, in proof of the influence of physical causes on the mind, as cretinism. It shows moreover, that the growth of every part is essentially connected with the conditions in which it is fit to exercise its peculiar functions; and in this respect, it fares with the intellectual as with the bodily powers.

The most decisive argument in proof of this opinion is, that cretinism may be prevented by removing children from the confined and dirty places where it prevails, and nursing and educating them in the higher parts of the mountains. Within these last ten years, the number of cretins has diminished, the condition of the lowest class of society is somewhat bettered, and more attention is paid towards that diseased constitution which is the forerunner of mental imbecility. I did not find that the poor creatures took any pride in having any of their children idiots or *bien heureux*, as some authors assert; on the contrary, the parents were very much ashamed of acknowledging that any cretins belonged to their families; and it was after repeated attempts, only by declaring myself to be a physician, that I could get access into their houses to examine any of these wretched beings in the human form. The burnt sponge is known as a remedy for the goitre among the people where it is most prevalent; but it is seldom administered, because the disease is so common, that it does not attract notice, nor affect, in general, the ordinary functions of life. And as to cretinism, that seems to be looked upon as belonging to indigence and poverty; for in every place where I saw cretins, many well looking persons of both sexes resided, and they were, without exception, persons of a higher class in society, who lived in better houses, and could supply both their moral and physical necessities.

I might perhaps have insisted more upon the analogy between cretinism and rickets, for there is a remarkable coincidence in the literary history of these two diseases, as well as in many other points. Glisson first described rickets, as it appeared in this country, in the middle of the seventeenth century, about the same time that Plater mentions cretenism. The origin of both names is equally obscure; and since some of the remote causes are now discovered, it is to be hoped the diseases themselves will gradually disappear, and in some happier age be known only by description.

IX.

Report on a Memoir of Drs Gall and Spurzheim, relative to the Anatomy of the Brain. By M. M. TENON, PORTAL, SABATIER, PINEL, and CUVIER, presented to, and adopted by the Class of Mathematical and Physical Sciences of the National Institute.

THE physical class appointed M. M. Tenon, Portal, Sabatier, Pinel, and Cuvier, to report upon a memoir, entitled, Inquiries into the nervous system in general, and the brain in particular, by Drs Gall and Spurzheim.

Your committee must confess, that they had at first some doubts about undertaking its examination.

The class has always adhered to a very wise rule of giving no opinion upon works already submitted in print to the great tribunal of the public; and it might be supposed, that the anatomical doctrine of Dr Gall has obtained, by means of the lectures which he has delivered in the principal cities of Europe, and by means of the numerous extracts from them, published by his pupils, a degree of publicity almost equivalent to that of authentic publication.

Besides, this anatomical exposition of the nervous system is generally supposed to be intimately connected with, and, in fact, is connected to a certain degree, by its author, with a physiological doctrine which he teaches, concerning the special functions of the different parts of the cerebral organ, a doctrine which in no way comes under the cognizance of the class, since it ultimately depends upon observations relative to the moral and intellectual disposition of individuals, which certainly are not within the sphere of any academy of sciences.

Such were the motives which at first deterred us; but others soon occurred which counterbalanced them.

Of all that has been written from the lectures of Dr Gall, his opinions upon the anatomy of the brain have been announced with most confidence, and, at the same time, explained with least detail and perspicuity. Besides, he does not acknowledge entirely any of the publications of his scholars; and consequently none of them enables the public to judge of his ideas, or supersedes the necessity of referring to the memoir presented to you. Lastly, he has taken the greatest care, in this paper, to omit entirely those assertions which have rendered his name popular, by becoming the subject of warm discussion, among people of all ranks, and he has confined himself strictly to his anatomical observations. Whatever, therefore, your judgment may be, no conclusion can be drawn from it, concerning a doctrine which has only a very distant relation to anatomy.

The consideration of the importance of the functions of the nervous system, and of the ignorance which still exists, concerning several points of its structure, notwithstanding the numerous examinations to which it has been subjected, superadded to these motives, fixed our determination. Whoever flatters himself that he is able to throw any light on a subject so interesting, and so obscure, is, in fact, entitled to be heard with attention, by a body such as ours; and we would be wanting in our first duty, if our examinations were not conducted with the greatest attention, and strictest impartiality.

Forgetting, therefore, entirely, what has been said and written for and against Dr Gall, in public, in journals, or in pamphlets, not even confining ourselves solely to his memoir, which has not appeared to us to be written with all the order and perspicuity to be desired, we invited him, as well as Dr Spurzheim to our conferences. They readily dissected the brain in our presence, and we dissected it before them; we afterwards re-examined, by ourselves, the observations they communicated to us; lastly, we endeavoured for a time to adopt their manner of viewing the subject, and to give a clear and precise abstract of it, which we submitted to them, that they might be satisfied whether we had rightly comprehended their ideas.

After taking all these precautions, we endeavoured to ascertain what was new or just in their ideas, and in the consequences which the authors deduced from them.

We now proceed successively to state our abstract, and the opinion we have formed.

Experience very soon shewed the brain to be the material instrument of the mind, and the essential organ of animal life, as well as that the whole nervous system performs a very considerable part in the functions of animal life. It is, therefore, not astonishing that physicians, anatomists, and philosophers in all ages, have investigated, with equal ardour, an organ of so much importance. It is with its study, that the history of anatomy commences and terminates. Democritus and Anaxagoras dissected the brain almost 3000 years ago, and Haller and Vicq-d'Azyr, and twenty living anatomists, have dissected it in our own times; but, strange to tell, there is not one of them who has not left discoveries to be made by his successors.

Undoubtedly we cannot expect a physiological explanation of the action of the brain in animal life, like that of the other viscera. In these the causes and effects are of the same kind. When the heart causes the blood to circulate, it is one motion which produces another motion: when the stomach converts the food into chyle, it is the heat, moisture, gastric juice, and slow compression of its muscular coat, which unite to produce, at the same time, a solution and trituration, greater or less, according to the species of animal, and the nature of its food.

The functions of the brain are of a totally different order. They consist in receiving, by means of the nerves, and in transmitting immediately to the mind, the impressions of the senses; in preserving the traces of these impressions, and in reproducing them with greater or less promptitude, distinctness, and abundance, when the mind requires them for its operations, and when the laws of the association of ideas recal them; lastly, in transmitting to the muscles, always by means of the nerves, the desires of the will.

Now these three functions suppose the mutual, but always incomprehensible influence of the divisible matter and the indivisible mind (moi); a hiatus in the system of our ideas never to be supplied, an eternal stumbling-block of all our philosophies. But there is another difficulty not necessarily connected with the former. We not only do not comprehend, and never shall be able to comprehend how any traces impressed on our brain can be perceived by the mind, and produce images in it; but however delicate our researches, these traces are in no way visible to our eyes, and their nature is perfectly unknown to us; although the effect of age and of disease upon the memory does not permit us to doubt of their existence, or of their seat.

It seemed, at least, that the action of the nervous system upon the organic life, would be more easily explained, as it is entirely physical, and we might expect, by means of investigation, to discover in this system some texture, some intermixture, or direction of parts which would render it more or less analogous to the vascular or secreting organs. There was especially no reason to doubt, that it would be possible to unfold their different portions, to assign their connections, their relations, and respective terminations, as easily as in the other systems.

This, however, has not happened. The texture of the brain, of the spinal marrow, and of the nerves, is so fine, so soft, that all that has been hitherto said of them is blended with conjectures and hypotheses; and the different masses which compose the brain are so thick, and have so little consistence, that the greatest dexterity is required to show all the parts of their structure.

In short, none of those who have examined the brain, have succeeded in establishing a rational and positive relation between the structure of that organ and its functions, even those which are most evidently physical; the discoveries hitherto made known with regard to its anatomy, are confined to some circumstances regarding the form, connections, or texture of its parts which had escaped the observation of preceding anatomists; and whenever any one has supposed that he had proceeded farther, he has only introduced, between the well known structure and its common effects, some hypothesis, scarcely capable of satisfying for a moment even the least sceptical minds.

All the actual discoveries which have hitherto been made, may be reduced to new methods of dissecting the brain, new connections and directions perceived between its different masses and the organic elements composing them, or new peculiarities observed in some of its parts.

We are far, however, from despising these results; they direct us to the only route which may at last conduct us farther; and although we do not yet know the whole length of this route, we are satisfied, that every step made in it brings us nearer to its termination, by some fraction of its length.

We proceed, then, to explain and examine, under these three heads, of method, connection, and peculiarities, the discoveries announced by Drs Gall and Spurzheim.

Anatomists know that there are three principal methods of demonstrating the brain.

The one most generally practised in the schools, and described in books, is that of Vesalius, which consists in removing successive layers of this organ, and in pointing out what presents at every cut. It is the one the most easily performed for the sake of demonstration, but the most difficult to be followed in the mind. The true relation of those parts, which we see always cut, escapes, not only the pupil, but the teacher also; it is almost as if one were to divide the trunk of the body by successive sections, to point out the position and form of the lungs, heart, stomach, &c. This method, however, is still almost the only one which is employed in the work of Vicq-d'Azyr, the most splendid, and one of the most valuable which has appeared on the subject of the brain.

The second mode, which deranges much less the organ, the structure of which it is intended to explain, is that of Willis, which, as far as we can judge by the obscure description of Galen, very much resembles that employed by the ancients. After removing the *pia mater*, the posterior lobes of the brain are raised, we penetrate between the *tubercula quadradgemina* and the *fornix*, and cut its anterior pillar; after detaching the lateral parts of the hemispheres, they are turned forwards: in this manner we have a good view of the under part of the *fornix* and *corpus callosum*; we preserve entire, the great and small tubercles of the interior; but the thickness of the hemispheres renders it more difficult to practise this mode in man than in other animals.

The third method was very long ago sketched by Varolius, and afterwards more fully detailed by Vieussens. By this mode the under part of the brain is first examined, and the *medulla oblongata* is followed across the *pons varolii*, the *thalami optici*, and *corpora striata*; its fibres are seen expanding to form the hemispheres; it is even possible to stretch out the hemispheres by removing their lateral attachment to the crura cerebri; to divide longitudinally the spinal marrow and the cerebellum; and then each half of the former is seen forming a pedicle, which is implanted into the side of the hemisphere, as the stem of a mushroom is fixed into its *pileus*.

This mode possesses the very great advantage of allowing us to follow more easily the direction of the medullary fibres, the only circumstance which can afford us any idea with regard to the course of the cerebral functions; and it is probable, that it would have been more generally adopted, if Varolius had not represented it in a very coarse figure, and if the work of Vieussens had not always remained, for what reason it is difficult to determine, in a kind of discredit which it did not deserve.

It

It is nearly this method of Varolius, which is followed by Drs Gall and Spurzheim, and which a part of their memoir is intended to defend; a labour, indeed, very useless, for so complicated an organ as the brain ought to be examined on every side; it must be cut into in every way; and whenever any plan is discovered which points out some new circumstance, it furnishes an important addition to anatomy.

We shall therefore judge of their mode by the results; and, for that purpose, we shall detail and compare them with those which have been obtained by preceding anatomists.

It is well known, that the opinion most generally received with regard to the minute organization of the brain, is, that the cortical substance of the hemispheres, and of the cerebellum, being almost entirely vascular, is a sort of secreting organ: that the medullary substance, almost everywhere of a fibrous appearance, is a collection of excreting vessels, or at least of conducting filaments; that all the nerves are emanations from this substance, bundles of these vessels; that the *medulla oblongata*, and spinal marrow, is itself a bundle larger than the others, from which the different pairs of spinal nerves go off in succession: lastly, that the nerves called cerebral, are the first which go off from the great medullary mass of the encephalon; consequently, it is believed that all the influence of the nervous system upon organic life, as well as all the efforts of the will, descend from the brain along the nerves; and that the impressions received from the external senses, reascend by the same route; but by a singular contradiction, at the same time that they make the medullary substance, and, consequently the nerves, originally extend to the whole of the cortical substance, several physiologists think themselves obliged to search for some circumscribed place from which all the nerves emanate; or, what signifies the same thing, in which all the nerves terminate; in short, for what anatomists call the *seat of the soul*.

It must be allowed, that this has been for a very long time the opinion most generally received, and that it is still very prevalent; although the most prudent philosophers have never brought it forward but as an hypothesis very slightly supported by facts.

Several of its partizans, however, have allowed themselves to be led into doubts and contradictions. Haller, for example, says in one place, that he cannot suppose that medullary fibres originate any where else than in the brain [*]; in another, that every nerve comes ultimately from the medulla of the brain or cerebellum [†]; while, in a third place [‡], he supposes that the cineritious matter of the spinal marrow may form them in the same manner as that of the brain.

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[*] Phys. IV. p. 385.

[†] Ibid. p. 393.

[‡] Ibid. p. 384.

In fact, this distribution of the cineritious matter in different parts of the nervous system, was one strong argument against the exclusive importance ascribed to the encephalon, and to it might be added several others.

It might be remarked at all times, that the action of the nerves upon organic life continues for some time, after the brain no longer contributes to it. Well known experiments upon insects and worms proved, that if in man, and the other animals where the brain is very large, this organ is necessary to the functions of animal life, it is not always so in those species where it is of less size, and that in some of these, we may even instantaneously produce, by dividing it, two centres of volition and sensation.

It has also been known for a very long period, that the spinal marrow does not diminish in proportion to the nerves which go off from it, as it ought to do if it were only a bundle of these nerves sent from the brain; that, on the contrary, it swells at certain places, from whence the largest nerves go off. Prof. Soemmerring has recently remarked, that the size of the *medulla oblongata* in animals is not in proportion to that of the brain as it ought to be, if it were a congeries of excretory tubes from the brain, but that, on the contrary, it is often in an inverse proportion; the successive investigations of Monro, Prochaska, Reil, have given us ideas of the structure of the nerves quite different from those which we would be obliged to form if we were to derive all of them from the medullary substance of the encephalon, and by it from the cortical substance. Several physiologists, therefore, within these few years, have again begun to consider the nervous system as a net-work, all the portions of which contribute, in a certain degree, and especially according to their size, to the organization and functions of the whole; and not as a tree which, having only one trunk, distributes itself into branches and twigs, after the manner, for example, of the arterial system.

Drs Gall and Spurzheim, in adopting this opinion, do not adduce new proofs of it, but only repeat those which we have stated, and which had been brought forward many years before.

It appears, that in Germany and other places, various objections have been made to their system which we would not have made, but which they have taken the trouble to answer.

When they, for example, described, that in the fœtus without a head, the nervous system performs its functions of organic life without the assistance of the brain, it was opposed to them, that the acephali are only foetuses where the brain has been destroyed by the effects of dropsy. This objection, which is true in some acephali, certainly does not apply to all; and it is by no means rare to see some which have been completely developed, although they do not show the smallest mark of having ever had either a head or any of the upper parts of the trunk.

We, therefore, readily agree with Drs Gall and Spurzheim, with regard to the general idea which they entertain, as well as a great many anatomists, of the nervous system. But while they, with so many others, consider it as a net-work, they have some particular ideas concerning the links and knots of which this network is composed; and here the part of their doctrine begins which is peculiar to them.

As far as we have been able to understand, it appears to us that it may be reduced to the ten following heads, or propositions:

1. The cineritious matter is the *matrix of the medullary filaments;* wherever it exists, these filaments are produced; it exists wherever they are produced. Whenever a medullary bundle crosses cineritious matter, it is enlarged by filaments received from the latter, and none of these bundles enlarge without the concurrence of this matter, whether it form a sensible enlargement, or only follow and accompany the medullary bundle.

2. The spinal marrow is not a bundle of nerves descending from the brain. The spinal nerves arise by filaments, some of which ascend, others descend; this is observed especially in brute animals. The cineritious matter of the internal part of the spinal marrow is the matrix of these filaments; the spinal marrow swells wherever it gives off a pair of nerves, and the more the larger that these nerves are. Thus the spinal marrow of the larger animals, as well as that of insects and worms with red blood, is only a series of ganglia, which give off nerves; but all these ganglia communicate with each other.

3. The nerves commonly called cerebral, and which arise from the under part of the encephalon, and chiefly from the medulla oblongata, do not come from the brain any more than the others; on the contrary, when we follow separately the roots of each of these into the substance of the medulla oblongata, we see that they reascend from the medulla towards the point where they appear externally, and that they do not ascend from the brain, to pass through the medulla oblongata.

4. The brain and cerebellum are themselves only developements of bundles which have come from the medulla oblongata, in the same manner as the nerves proceed from it.

The brain, in particular, arises principally from the bundles called pyramidal eminences, which cross each other in passing out of the medulla oblongata, each going to the opposite side to that from which it comes, they swell out first in crossing the *pons varolii*, again in passing over the tubercles called *thalami optici*, and a third time in those tubercles called *corpora striata*, always from the addition of medullary filaments, which the cineritious matter, contained in these three parts, adds to those they originally consisted of. The cerebellum comes from bundles called *processus cerebelli ad medullam*, or *corpora restiformia*, which receive an addition of filaments once only from the cineritious matter of what is called *corpus ciliare.*

5. These two pairs of bundles, after receiving these additions, after having assumed consequently a diverging direction, terminate each in two large expansions, covered externally by cineritious matter, which only here deserves the name of *cortical* substance; and these expansions, folded in various ways, form what are called the hemispheres of the brain, the lobes, and the *vermiform processes* of the cerebellum.

6. From the whole extent of these expansions, other medullary filaments are produced, which converge from the two sides of the brain and cerebellum, towards the middle line, where the filaments of the one side unite with those of the other, and form what are called the *commissures.*

The corpus callosum, the fornix, and its appendages, form the largest of the commissures of the brain; the anterior commissure is that which joins the middle lobes. The commissure of the cerebellum is composed of the transverse layers of the pons varolii.

7. When we remove or lacerate the converging fibres which go to the corpus callosum, and which serve as a cieling to the lateral ventricles, there only remains, under the cineritious substance, a medullary part lining it, and following all its folds; and far from forming a solid mass, as has been hitherto supposed, there is always in the middle of each convolution of the brain and cerebellum a solution of continuity, and by employing proper care, we may unfold this portion of the medulla, as we would unfold the cineritious substance if it were alone. In a word, each convolution is a kind of small purse or canal, closed externally by a double layer of cineritious and medullary matter, and on the side of the ventricle by the converging medullary fibres.

8. As the pairs of bundles forming the brain and cerebellum have their commissures, those which form the nerves have often theirs also, which may be very easily demonstrated in the second, the fourth, fifth, and seventh pairs, and very probably in the others.

9.

9. The ganglia spread over the whole body are small masses of cineritious matter, which certain nerves pass through, and where they are strengthened as the pedunculi of the brain are increased in the thalami optici and corpora striata.

These two pairs of tubercles, then, are true ganglia to these pedunculi. The cineritious matter of the cortical part of the brain and cerebellum may likewise be regarded as a ganglion of the commissures, or converging fibres. That of the inner part of the spinal marrow forms, in like manner, the primary ganglia of the spinal nerves. The cerebral nerves have probably each of them a particular ganglion, and it is easy to demonstrate it in several of them. The cineritious matter, and consequently the ganglia, may therefore be compared to the mucous expansion which covers all the extremities of the nerves of the skin, of the intestines, and even the pulp of the labyrinth, and the sort of mucous varnish which covers the retina.

10. From these nine articles, all merely anatomical, all more or less susceptible of being verified, a tenth results, which completes and is the essential character of the anatomical doctrines of Drs Gall and Spurzheim, viz. that each pair of nerves forms a particular system; that all these systems communicate together, and reunite in the great cord of the medulla oblongata and spinal marrow; and, lastly, that the brain and cerebellum, far from being the origin or source of this cord, are, on the contrary, an appendix or sort of *diverticulum*, reserved for certain functions, but receiving an influence from all the parts of the cord, and exercising one upon them by means of their communications.

We do not think that any anatomist can perceive any obscurity in this new explanation of the ten principal articles premised by the authors of the memoir which we are examining; they have, besides, acknowledged them to be the true expression of their opinion.

It only remains for us, therefore, to say how far they appear to us to be true and new; this we shall do separately with respect to each of them, and with the more interest, as there will result from our examination a kind of treatise, in which the structure of the brain will be considered under different views, more or less important, and abounding with extensive consequences.

But, before proceeding to this, justice requires us to repeat the declaration of Drs Gall and Spurzheim, that they do not pretend to have discovered many new facts; but that the chief merit which they claim consists in the connection which they have been the first to establish between the known facts, and in the general conclusions which they have deduced from them.

The first article which ascribes as a function to the cineritious substance the giving rise to the medullary filaments, or, as the authors of the memoir express it, the being the *matrix of the nerves*, is indeed only another expression for the opinion generally received. Disputes have existed with regard to the texture of that substance. Malpighi supposed it to be formed of small follicles; Ruisch, perhaps with more justice, only admitted a vascular net-work; others are of opinion, that there is also, besides the vessels, a particular substance; but it has been almost always agreed to regard it as a secreting organ, and the fibres of the medullary substance as the excreting organs of the substance which it secretes; it was therefore necessary that these fibres should arises from the cineritious matter. The physiologists who do not believe the nerves to be hollow, but suppose that they have the power of conveying a fluid in the manner that the metals conduct electricity, do not all deny, on that account, that the nerves receive their fluid in the cineritious substance; hence they also think that they arise from it. Those, lastly, who ascribe to all the portions of the medullary matter a secreting power, do not pretend to deny, what the eye demonstrates, the close adhesion of the medullary to the cineritious matter of the cortical part of the hemispheres, and the immense quantity of filaments which go out at so many radicles, the cineritious portions of the corpora striata and thalami optici, &c.

Our authors have therefore, nothing particular in the function which they ascribe to the cineritious substance. Even in generalizing this function to all the parts of this substance, they only express, in more positive terms, what, as we have seen above, Haller suspected to be the case with regard to the cineritious portion of the spinal marrow.

Since this opinion is admitted by so many anatomists, there must be powerful reasons for it; in fact, besides what the eye informs us of, the intimate connexion of the two substances, the number of arteries which go to the cineritious substance, and which seem almost entirely to compose it, can have scarcely any other object than a copious secretion.

The quantity of cineritious matter dispersed over all the parts of the nervous sysem, and to which the authors of the memoir have the merit of recalling our attention, would perhaps explain sufficiently the functions which the parts of the system exercise without the concurrence of the brain, and would dispense with the necessity of having recourse to a particular power of secretion

tion in the medullary substance, or even in the sheath of the nerve, as Reil supposes.

The *second article* draws a comparison between the spinal marrow of the superior animals, and that of insects and articulated worms, or those with red blood.

It is well known that, in the two latter classes, the brain is scarcely larger than the ganglia, or knots of the spinal marrow from each of which the pairs of nerves go off; that it is from the size of these ganglia, and from their separation, as well as from the smallness of the brain, that we endeavour to explain the divisibility of the individual, which is remarked in all these species, at least for some minutes, and which goes so far in some, such as the *earth-worms* and the *naides*, as to make two lasting individuals from one, by means of division.

Nothing resembling this had been perceived in man, whose spinal marrow has no sensible contraction, and only swells out at those places from which it gives off nerves to the arms and thighs; but Drs Gall and Spurzheim have showed us a preparation of the spinal marrow of a calf, in which is observed a kind of light swelling between each pair of nerves. It would be curious to ascertain exactly in what animals this structure is found, and if it has any relation with the power of executing certain voluntary actions, without the brain; if the turtles, for example, which live and walk several months successively without this viscus, have the spinal marrow more knotty than the other animals with red blood, &c.

One of our number has begun inquiries with this intention, which have not afforded him sufficient results to be laid before this class; but he has already ascertained that there are no sensible knots in quadrupeds even nearly allied to the calf.

The third article is subdivided, for examination, into as many heads as there are pairs of nerves.

The general result which the authors propose to prove is, that all the nerves arise from the medulla oblongata or spinal marrow, and not from the brain.

There is no difficulty as to the spinal nerves, which are only conjectured to come from the brain, but the roots of which undoubtedly no human eye can trace into it, nor even perceive a tendency to run into it.

There can be no more with regard to the last pairs of the encephalon, counting from the par vagum, and under it, for they arise by transverse filaments, as the spinal nerves, although they have not two bundles; and no anatomist has observed these filaments reflected towards the brain after having entered the spinal marrow.

There is still less doubt with regard to the nervus accessorius of Willis, which evidently reascends.

We have only, therefore, to attend to the first eight pairs, reckoning the facial nerve as a separate pair.

The *seventh* pair of Willis is, in fact, now generally acknowledged as forming two nerves, distinct at their origin as well as in their course. The soft portion, or the *auditory nerve*, arises transversely from the *corpus restiforme*, called also *processus cerebri ad medullam*. This nerve has been, for a long time, considered to be formed by the small white filaments traced over the cieling of the fourth ventricle, and this is still the opinion of Haller *, of Vicq-d'Azyr †, and of Soemmerring ‡. However, as those filaments vary in number, and even in direction—as a part of them is sometimes seen reascending towards the corpus restiforme, or passing through it towards the pons varolii §, and as it is not very rare to find them wanting, their continuation in the auditory nerve has begun to be doubted. Prochaska ‖, the two Wenzels **, &c. have formally denied it. The latter †† and Dr Gall have farther remarked, that these striæ are generally wanting in animals.

The two Wenzels ‡‡ observed, in 1791, for the first time, a small grey band slightly prominent, placed also transversely upon the corpus restiforme, and which constantly covers a part of the base of the auditory nerve, which it unites with the fourth ventricle. Prochaska is hitherto the only one who has given a representation of it §§. It is likewise observed in animals; and Dr Gall, who adopts in this respect, the opinion of the Wenzels, remarks that it is the more swelled in every species the larger the ears are, and the more acute the hearing is.

In the *horse*, the *stag*, the *sheep*, it is a tubercle almost as large as the eminence called *testis*.

We have found this circumstance to be true.

It is besides evident, that if the origin formerly admitted were the true one, the auditory nerve would not, therefore, arise less transversely from the medulla oblongata, and that its visible roots would always come rather from below upwards than from above downwards.

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* Phys. t. iv. p. 225.

† Explication des Planches, p. 95,

‡ De Fabrica Corp. Hum. t. iv. p. 256.

§ We have had a very marked example of the latter structure in the course of the researches occasioned by this memoir.

‖ Oper. Min. t. i. p. 388.

** Prod. p. 22.

†† Prod. ‡‡ Ibid. §§ Oper. Min. t. i. tab. iii. fig. 1.

The *facial nerve*, or portio dura of the seventh pair, and the *abductor* of the sixth pair, are then the first which can leave any doubt, whether they arise from the medulla oblongata, or from the brain, from behind or from before.

In man, they both arise from the body of the medulla oblongata, immediately behind the posterior edge of the pons varolii, and so near to it, that several anatomists make them derive a part of their filaments from it.

The *facial* nerve, in particular, goes off some lines farther outwards than the other, at the angle formed by the pons varolii and corpus restiforme, at about a line from the point where the *auditory* nerve is detached from the corpus restiforme, which it had, as it were, surrounded.

The *abductor* seems to arise from the fissure which separates the pons varolii from the pyramidal eminences; and there are some anatomists who derive all its roots from the pons, others from the pyramids, others from both parts. There are others again who are not explicit with regard to this point.

According to the idea generally adopted, that the nerves descend from the brain, M. Soemmerring supposes * that the abductor nerve has its roots in the pedunculi, and that they separate from them, turning backwards, after the pedunculi have crossed the pons varolii to form the pyramidal eminences. This is nearly the opinion of Vieussens †, but it is evidently the result of hypothetical reasonings, and not of actual observation.

To ascertain the true direction of the roots of these nerves, it is necessary to have recourse to the herbiferous animals, in which the pons varolii does not cover them, since it is not so large as in man.

This is what Drs Gall and Spurzheim have done, and they found at once that the *abductor*, in them, arises some way behind the pons varolii, and appears to be the continuation of a small bundle which ascends between the corpus pyramidale and olivare. The filaments which produce it are longer at the back part and shorter before, so that they have, in miniature, the same arrangement as those of the accessorius of Willis. There is no reason, then, to suppose that it descends from the brain.

This observation concludes the discussion whether or not the nerve receives some filaments from the pons varolii; since it is only on account of the breadth of the pons in man that it approaches to its posterior edge.

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* De Bas Enceph. p. 140.

† Neurogr. Univ. p. 176.

We have not found any positive traces of this remark in the authors whom we have consulted, but we have convinced ourselves that it is true with respect to the herbiferous animals; and one of our number had even observed it some time ago in the horse. In the carnivorous animals and the ape, the pons varolii and the sixth pair have a greater resemblance to what is observed in man.

With regard to the *facial nerve*, a transverse medullary band is seen in the herbiferous animals, behind the pons varolii, which begins exactly at the outer edge of the abductor, and passes over the root of the *par trigeminum*, or where it is continuous with the auditory nerve.. The facial nerve appears to pierce the band obliquely from behind forwards. Thus it would seem to arise from the under part of the medulla oblongata, almost in the same manner as the auditory nerve arises from the upper part, and two pairs of nerves would be formed, the origin of which is, in fact, separated from each other by the whole thickness of the medulla oblongata, although they afterwards approach so as to touch each other.

Nor have we remarked that any author has pointed out, this fact before Dr Gall; but we are certain of its accuracy, and one of us had seen it, and delineated it some time ago, in the stag, horse, sheep, and rabbit.

The brute animals also, show more clearly than in man, the origin of the *par trigeminum*, or fifth pair.

It is generally said simply to arise from the lateral parts of the pons varolii, or from the extremity of the pedunculi cerebelli. This is still adhered to by Vicq d'Azyr * and Meckel †. Haller reckons this pair in the number of nerves, which may come both from the cerebrum and cerebellum ‡. It is however ascertained, that it neither comes from the one or the other, and that it may be traced deep into the medulla oblongata, to nearly an inch farther back than where it comes out.

Santorini asserts §, that he has traced the roots of it to above the corpora olivaria, and says, that it is not more astonishing to see this nerve ascend from below, than the *accessorius of Willis;* but he then supposes, that a part of the fibres of the pedunculia which do not enter the corpora pyramidalia, they being in fact too small to contain them all, go on further, and then those, among others, are reflected which form this nerve; a very gratuitous supposition, and which nothing sensible to the eye can justify.

M. Soemmerring seems not to have understood Santorini, at the time he wrote his treatise *De basi encephali* ‖; but he relates, that * accident had made him afterwards trace the origin of this nerve into the substance of the medulla oblongata, even as far as the bottom of the fourth ventricle; and according to his favourite hypothesis, with regard to the seat of the soul, he conceives that the primary roots of it are bathed in the water of that ventricle.

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* Explication des planches, p. 52.

† No. 46 et 47.

‡ Phys. t. iv. p. 387.

§ Observat. anatom. p. 64, 65.

‖ P. 135.

Dr Gall follows, in a steady and sure manner, this deep and low origin of the par tregeminum, as far as between the *corpora olivaria* and *restiformia*. He shows besides, that the breadth and thickness of the pons varolii in man, were the obstacles to its being discovered sooner. In fact, in the herbiferous animals, in which the pons is much narrower, the roots of the trigemini are easily traced, under a part of the pons, and under the transverse band placed behind, which we have seen to be partly the origin of the facial nerve, as far as a longitudinal bundle which runs along the outer side of the corpora olivaria.

We have confirmed these two observations; and in repeating the second, in several animals, we have ascertained that it is found neither in the ape, nor in several of the carnivorous animals in which the nerves go off as in man; but always because the pons varolii in them also is broad. With regard to the first, it has appeared to us to be so certain, that we cannot help saying that Vicq-d'Azyr has been deceived, in deriving the roots of the fifth pair from the pedunculi cerebelli †. In examining always with the knife, he must have divided them, and lost sight of them too soon.

Every one knows, that the *nervus patheticus*, or the fourth pair, arises transversely from the valvula Vieussenii, behind the *testes*. There is nothing which could make it be derived from the great medullary mass of the brain.

The *motor oculi*, or third pair, comes from the pedunculus cerebri, towards its internal edge, where it touches the *perforated cineritious space*, lying between the two pedunculi and the two processus mamillares, and receives some filaments from it. In man its roots are arranged in a line, nearly in the direction of the pedunculi, and the posterior roots are the longest, judging even by the external appearance; they proceed then rather from the posterior than the anterior part; but if a slight cut be made into the peduncle, this fact becomes still clearer. The greater part of these roots may be followed as far as under the pons varolii. A part of them is lost, or rather is formed around the black coloured part of the pedunculi. This arrangement is very well represented by Vicq-d'Ayzr, *pl. xxxi. fig.* 2.

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* De fabric. corp. hum. p. 212. No. 7.

† Mem. de l'Acad. des Sciences, 1781. p. 565.

In other animals the roots are more transverse, and more perpendicular; such at least we have observed them to be in the horse and the sheep.

The *optic nerve* is very generally considered as proceeding from the thalami optici; because its roots are spread out upon them in the manner of a thin membranous expansion, which almost entirely covers them. However, anatomists have not been wanting, who supposed that they could trace at least a great part of these, as far as the *nates;* such as Morgagni, Winslow, Zinn. Santorini * describes this origin very carefully, and adds another, which he makes to come from the testes; his pupil and editor, Girardi, confirms it †. Vicq-d'Azyr, who was also very well acquainted with these connections of the optic nerves with the tubercula quadrigemina, pretends, however, that they have likewise other roots in the substance of the thalami, which, in the form of innumerable filaments, join the nerve in a great part of the course which it takes in surrounding the crus cerebri; and he boasted of this discovery ‡. But this appears to us to be a deception, into which he may have been led by his mode of making parallel incisions. It is very true, that a number of white filaments arise from the cineritious substance of the thalami; but they do not appear to us to go to the optic nerve. On the contrary, they are added to the bundle which comes from the pyramidal eminences, as we shall mention presently. Drs Gall and Spurzheim have found out a mode of dissection which demonstrates this very well, and which we shall mention again.

They suppose then that it is possible, at least in several animals, to remove from above the thalami, without affecting them, the medullary expansion of the roots of the optic nerves, and to follow them as far as the internal part of the nates, where they form a white lamina which occupies the centre of these tubercles.

The last point is certain; with respect to the first, as it can only be performed with the assistance of the handle of the scalpel; it is liable to the same doubt as all similar operations which may be tried on the brain.

Our anatomists farther remark, that in those individuals in which the optic nerve of one side is weakened and thinner, the corresponding tubercle is also smaller; and that in those species which have large optic nerves, the nates are of larger size; but that frequently in these cases the thalami is smaller.

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* Observat. Anatom. p. 63. † Septemdec. tab. p. 34.
‡ Acad. de Sc. 1783. p. 529.

The medullary tract which comes from the nates, meets in its course the tubercle called *corpus geniculatum externum.*

That which comes from the *testes*, divides the first at the *corpus geniculatum internum*, and seems to slip under it, to cross it in passing forwards; thus Drs Gall and Spurzheim do not believe that it belongs to the optic nerve; they have even for a long time thought that it forms the external root of the *olfactory*, which is indeed very nearly in that direction; but they have never been able to trace its continuity.

One of our number has made several researches on this part of the brain, which appears to have been only well known to Santorini and Viéq-d'Azyr, but which has never been properly delineated.

It is a fact, that in all quadrupeds, the principal bundle of the optic nerve goes from the nates to the *corpus geniculatum externum.*

It is also certain, that another bundle comes from the testes, which makes an angle with the first; and which, after swelling out to form the *corpus geniculatum internum*, seems to pass under the first bundle, and proceed further, but is soon lost to the eye and the knife.

Lastly, It is ascertained, that both the *testis* and the *corpus geniculatum internum*, are much larger in the carnivorous than in other animals; and this fact would be favourable to the idea, that they contribute to form the olfactory nerve, which is so conspicuous in that class.

But we think that we have seen in the ape, that the *corpus geniculatum internum* receives a bundle from the *nates*, as well as from the *testes*, and forms by their reunion a root of the nerve, which joins only very low down that which comes as usual from the nates above the *thalamus opticus.* Drs Gall and Spurzheim have themselves besides remarked, what one of us pointed out long ago, that the dolphins and porpoises which have no olfactory nerve, have, however, very considerable *testes.*

These animals, likewise, have the corpora striata as the others, which shows that these bodies do not possess the function attributed to them, of forming the olfactory nerve.

The first pair, then, will be the only one, the roots of which cannot yet be traced to the medulla oblongata, and which does not agree as yet clearly with the rule established in the memoir which we are examining.

Dr Gall explains, conformably to the law mentioned in his first article, the enlargement of the optic nerves below their conjunction, by numerous filaments sent to them by the cineritious lamina interposed at the fore part of that conjunction; which filaments have been accurately described, and carefully delineated, by Vicq-d'Azyr *.

A strong objection was made to the origin, which our anatomists assign to the optic nerve, drawn from the structure of birds, which, it was said, have no *nates*, although their eye and optic nerve are of a very large size; but their answer is convincing. What Willis, Collins, Haller, and other anatomists have called thalami optici in birds, is in fact the *nates*. The true thalami optici are situated before, with their third ventricle, the pedicles of the pineal gland, and the two commissures in their usual place; in a word, they are in every respect similar to those of the quadrupeds, in proportion to their relative size; the supposed thalami of Haller are, on the contrary, between the posterior commissure and the valvula Vieussenii; the aqueduct of Sylvius passes between them; it is with it that the ventricles communicate, which are peculiar to them in this class.

We have proved the truth of this important remark; it can admit of no reply. It is the more the duty of the reporter to acknowledge it, as he had adopted the common error in his works.

Now, as the tubercles in question evidently give rise to the optic nerves in birds, they confirm the origin which they ascribe to these nerves in the mammalia, and in man, instead of invalidating it.

We may here repeat the elegant remark made by Vicq-d'Azyr, that these tubercles have a ventricle in birds in which the sense of sight is the most acute, as the olfactory nerve in the mammalia, in which the sense of smell is superior to the others.

We proceed to ARTICLE IV. in which our authors explain the relation between the medullary oblongata, and the brain, and the cerebellum.

The continuity of the medullary fibres of the pyramids across the pons varolii, with the crura cerebri, and of these across the *thamali optici* and *corpora striata*, into the medullary substance of the hemispheres, was well known to Vieussens, who had also given the very just appellation of posterior corpora striata to the thalami optici; but the figures †, in which he represents this important point of the anatomy of the brain are very coarse; they only shew simple filaments, which went on enlarging and separating from each other, which is far from being the case.

This

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[*] *Mem. de l'Acad.* 1783. p. 548. et. pl. xiii. fig. 1. et 2.; and in his large work, pl. xxi. in all the figures.

[†] Nevrogr. univ. p. 88. et 89.

This interesting point of view was afterwards almost entirely overlooked, because they contented themselves with cuts made in the superior part of the brain. Monro * and Vicq-d'Azyr † again introduced it; the latter especially represented this continuity in two very beautiful plates, although, perhaps still a little less exact than is necessary, because the preparer had not taken care to bend his incision according to the direction of the filaments.

To these horizontal incisions already made by the three authors we have just quoted, Drs Gall and Spurzheim add a vertical one, which has the merit of explaining, according to their view, how these medullary bundles enlarge, and of pointing out the true termination of the filaments of the thalamus opticus, which Vicq-d'Azyr thought he had traced into the optic nerve.

This cut passes through the middle of the pyramidal eminence of the crus cerebri of the thalamus and corpus striatum of one side, obliquely forwards and outwards.

The bundles of the pyramids are there distinctly seen intermixing with those of the pons varolii, and with the cineritious substance which mixes there with them, and supplies some additions; passing from thence into the crus cerebri, they again received filaments from the *processus cerebelli ad testes.* At one place, under the thalamus opticus, they unite into a white mass, to which innumerable filaments of the internal part of the thalamus are joined at acute angles, pointing forwards. It is essential to remark the latter circumstance; it proves that the thalami send their filaments forwards and not backwards, as Vieussens had supposed; it points out also, that it is not into the optic nerve that these filaments go, as Vicq-d'Azyr thought.

The white mass then becomes stronger, and divides into a great number of diverging pillars, which constitute the white streaks of the middle of the corpora striata; the cineritious matter of the superior surface of these bodies gives also a great number of small filaments, as the thalami had given; at last, all these fibres are dispersed in the medullary mass of the hemispheres, where we shall follow them presently.

The two transverse whitish arches which are seen in the horizontal cut, and part of which Vicq-d'Azyr has expressed in his plate, are the places to which the greater number of filaments come from the superior parts of the thalami and corpora striata.

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* Nervous System, t. VII. fig. 1.

† Grand ouvrage sur le cerveau, pl. XXII. et XXIII.

Such is the faithful description of what is perceived by the eye; one of us has delineated all this arrangement in man, quadrupeds, and birds, in which the essential points are nearly the same.

We are aware that there is no better reason for saying that the great fibrous bundles go from the pyramids to the hemispheres, than from the hemispheres to the pyramids; since the nervous influence proceeds in both directions.

But one may and ought to inquire which direction the small fibres of the thalami and corpora striata take. Are they supplied by these tubercles to enlarge the great medullary bundle, or are they given off from the medullary bundle to sink into these tubercles? This latter opinion certainly could have no probability, and no one will condemn Drs Gall and Spurzheim for adopting the opposite opoinion.

They would then be in the right in this sense, when they say that the medullary bundles go on always enlarging from the pyramids to the hemispheres.

But whence do the inferior extremities of the bundles, these same pyramidal eminences, come; or, whither do they go?

They cross each other about two finger's breadth behind the pons varolii, and immediately disappear behind that point, losing themselves on both sides in the two cords composing the inferior surface of the spinal marrow.

This is one of the most interesting facts in physiology and pathology.

Every body knows how frequent it is to see a paralysis of one side, occasioned by an injury of the opposite side of the brain; physicians of every age have endeavoured to explain this fact by a decussation which they vaguely supposed in the fibres of the brain, or in the deepest roots of the nerves *.

However, we see, almost everywhere, only transverse fibres, commissures, and not crossed fibres.

There is only one place, at the posterior extremity of the medulla oblongata, which presents a true decussation, which was discovered by Domenico Mistichelli, and very well described by him in 1709 †. François Pourfour du Petit ‡ likewise described it the following year, and was the first who made it known in France.

How

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* Arétée de Caus. et Sig. Morb. lib. 1. cap. 7. p. 34. B. edit. Ludg. Bat. 1731. Nervi ab initio enati protinus ad oppositos transeunt, se invicem per mutantes in figuram literæ X.

† Trattato dell Apoplessia, Roma, 1709, in 4to.

‡ Lettre d'un Medicin des Hopitaux du Roi, p. 12. Namur, 1710, 4to.

How has it happened that a point of structure so evident, adopted by Winslow[*], Lieutaud[†], Portal, distinctly described[‡], and plainly delineated[§] by Santorini, should have been doubted by the great Haller[||], recently denied by very skilful men, and confounded by others, among whom may be reckoned Vicq-d'Azyr himself, with that of the transverse fibres which reunite, in their whole length, the lateral parts of the medulla oblongata?

It is probably owing to the want of a sufficiently clear description, and perhaps, also, because the place of the decussation must be often cut in separating the head from the body.

It will be impossible to be mistaken in it, after the demonstrations of Drs Gall and Spurzheim. When we separate from each other the two inferior cords of the medulla oblongata and spinal marrow, we see that they are separated by a pretty deep fissure, the bottom of which is occupied by transverse medullary filaments. This fissure is only interrupted at one place, which is what now engages our attention, and which is only two or three lines in length. The fibres of the pyramidal eminence of one side form there three or four filaments, which decussate upon the fissure with the opposite filaments, as the hairs of a mat, and which are blended afterwards with the rest of the medullary cord, into which they thus enter obliquely.

This decussation strikes the eye when we separate gently the edges of the longitudinal fissure of the medulla oblongata, because it is the only place where we cannot perceive the bottom of the fissure.

There is certainly some merit in having renewed the general knowledge of an important point of doctrine, which the doubt or denial of able men had caused to fall into oblivion.

Dr Gall having established, as it appears, from this progression of medullary bundles of the brain accross the pons varolii, the thalami, and corpora striata, his law of the increase of the medullary fibres by the cineritious substance, wishes to apply it to the cerebellum.

He has recourse here to the cineritious body of so singular a figure, which is found in the substance of the crura cerebelli, which has been called *corpus ciliare*, or *corpus fimbriatum*; the bundle called *processus cerebelli ad medullam* would give rise to the cerebellum, after having been reinforced by the corpus fimbriatum, as the pedunculi cerebri are by the thalami optici, and the cineritious part of the corpora striata. But perhaps this analogy is not complete. The corpus fimbriatum is enveloped, and, as it were, immersed in the medullary matter, instead of giving a passage to it; and we do not observe that it supplies it with any filament.

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[*] Traité de la Téte, No. 110.

[†] Anatomie Historique et Pratique, t. 1. p. 591.

[‡] Santor. Observ. Anatom. p. 61. xii.

[§] Ibid. § xvii. tab. II.

[||] Phys. t. iv. p.

Some persons will perhaps add, after the example of Vicq-d'Azyr *, that the brute animals have no corpus fimbriatum, but the truth is, that it is only of a smaller size: and as their cerebellum is also much less, the fact would be more in favour than against the idea of our anatomists.

Articles fifth, sixth, and seventh should be examined together. These three form the most particular points of the doctrine of Drs Gall and Spurzheim; the seventh especially, relating to the possibility of unfolding the brain like a membrane, has made the most noise in the world; but, as is too commonly the case, almost none of those who have spoken of it have properly understood our authors; and those who have thought that they had found the fact in more ancient authors, had still less understood the circumstance itself, and the passages where they thought they saw it expressed.

The terms in which we have expressed the ideas of Drs Gall and Spurzheim, will make you already perceive that the question is not the unfolding the whole brain; they have expressly stated, at the meetings which we have had with them, that the parietes of the ventricles are such as they appear to be, and that they do not conceal any folds, except behind, towards the plaited margin, where their folds were, a long time ago, known to, and delineated by, Vicq-d'Azyr; only, our anatomists say these thick sides, formed by the converging fibres, are the only bands which retain the folds of the external substance; this is attached there as the folds of a plaiting, for example, are fixed to the stuff of a gown; if you remove the principal stuff, the folds will extend, and form likewise a plain piece of stuff.

Your committee have examined, with all possible attention, the hemispheres of the brain, in order to judge of the truth of so new a doctrine.

They think that they can, in fact, distinguish two orders of fibres in the medullary matter, but they find it necessary still to confine very much the idea which might be formed of the unfolding, according to the expression which we have just stated.

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* Acad. des Sciences, 1783, p. 471.

We shall now explain, in succession, these two propositions.

When we trace with the knife the fibres which come from the crura cerebri across the thalami optici and corpora striata, we see that they intersect, at angles more or less acute, those which go towards the middle line, and which form the corpus callosum and the fornix; it is even very easy to demonstrate their decussation in the inferior horn of the lateral ventricles, and the diverging fibres which come from the corpora striata, appear very evidently to form a layer external to the converging fibres which compose the corpus callosum.

But, does this external layer follow all the duplicatures of the still more external layer of cineritious matter, which is called cortical,—and does it unfold itself as the latter might be unfolded, if it were alone, and freed from all the white matter which fills it?

The one of these questions is evidently entirely independent of the other, and to be decided entirely by the testimony of the senses.

Taking, in the first place, the circumstance in the strict acceptation in which it seemed to be announced, we have used every effort to enable us to adopt or reject it with certainty; it would not be easy for us to make those who have not tried it understand how very great difficulties we have had to encounter. The medullary matter which fills the circumvolutions of the brain is so soft that it sinks down by its own weight; however lightly one supports with the finger the convexity or the dorsum of one of these circumvolutions, its two sides separate horizontally, and each of them carry away a part of the medullary matter which filled up the interspace. The vessels are not ruptured, because they are for the most part placed in the direction in which the rupture takes place, and besides, because they pass through this medullary matter on account of its softness, as threads would pass through jelly or pomatum. It appeared to us, then, impossible to prove that there was an actual solution of continuity; on the contrary, both with the naked eye and the magnifying glass, the two laminæ of the white matter appeared covered with small prominent points, with small filaments, which had quite the appearance of as many lacerations. We even tried to make the laceration begin so as to leave a thicker lamina of white matter on one side than the other; and it appeared to us that the separation was made as easily as in the middle.

The argument which the authors of the memoir draw from the example of *hydrocephalous patients* did not appear to us much more conclusive. An accumulation of fluid in the ventricles of the brain may slowly distend the parietes, efface the projection of the circumvolutions, and render thin the medullary matter which surrounds them without the latter being necessarily unfolded; the dropsy of the kidney distends and lessen the substance of that organ to such a degree, as to make it resemble a membrane, without any one being tempted to suppose that it was unfolded. The phenomena of hydrocephalous patients who, having preserved their intellectual faculties for a long time, proves nothing further; for, as we do not know with what part of the brain, nor with what circumstance of its organization these faculties are connected, we can draw no conclusion from it relative to the essential structure of the brain.

Farther, we have also examined hydrocephalous patients; the parietes of the ventricles, though extended, had the same appearance as usual, and the circumvolutions, although thinned and partly effaced, nevertheless preserved their internal solidity.

Such were the ideas excited in us by the first memoirs of Drs Gall and Spurzheim, compared with the objects themselves, but these anatomists have since transmitted to us an additional note in which they point out new modes of ascertaining the facts, and in which they explain their mode of viewing them with more precision.

M. Spurzheim has repeated in our presence these new experiments; vertical slices of the circumvolutions, macerated in nitric acid, diluted with rectified alcohol, became hard, and were divided more easily at the middle line; the same took place when they were boiled for 12 or 15 minutes in oil; when one blows on such a slice, or directs a small stream of water on it with a syringe, the separation may be made very easily in the middle, and scarcely at all at the sides. In the latter case, especially, the two surfaces which are separated, remain smooth, and the vessels passing through them untouched, without shewing any traces of fibres which might have gone from the one side to the other.

These facts are accurate, but perhaps they only prove that there is less cohesion in the middle of a circumvolution, than in the rest of its capacity, and not that it is formed of two laminæ simply applied, and not adhering together.

In other words, it may be admitted, in our opinion, that the white or intermediate portion of each circumvolution, is formed of two parts, which adhere to each other more slightly than the particle of each among themselves; or the union of them may be compared, for example, to that of the two laminæ of the dura mater, but not as was supposed, to that of the two sides of an intestine compressed, except, however, that the medium of union is not cellular matter, as in the dura mater, but the medullary substance itself a little softened.

Besides, as this is a point of fact, admitting an appeal to the senses, we do not pretend to give to our opinion more authority than it ought to have; this question cannot be long of being examined by every anatomist, and will find as many judges as observers; it cannot fail then of being soon finally fixed.

It is a great deal more difficult to demonstrate these orders of fibres in the cerebellum, than in the brain; and it is by analogy, rather than by actual knowledge, that Drs Gall and Spurzheim admit their existence there.

With regard to what they say of the commissures of the brain, and cerebellum, their ideas are not new, or different from what has been already advanced by a very great number of anatomists; we may also add, that there is nothing in them which is not very probable.

We find the same probability in the commissures which *article eighth* attributes to each pair of nerves. It amounts almost to certainty in all the spinal nerves, whose commisures are the transverse filaments of the spinal marrow. We may suppose, that the small band which unites the two facial and the two auditory nerves in animals, is concealed in man by the pons varolii; the two pathetics touch each other on the valvula Vieussenii; the two optic nerves, as every one knows, appear almost to be intermingled together anteriorly to the pituitary gland; besides, their roots must unite at the same time as the nates and testes on the aqueduct of Sylvius. There would then only remain the abductors, motores oculorum, and olfactory nerves, which would not have visible commissures. The anterior commissure of the brain also, is evidently united to the olfactory nerves in brute animals.

This generality of the commissures seems to assist in explaining the unity of action of the double organs.

The *ninth article* is one of those which have been the most contested by the anatomists of Germany, and which are in fact the most susceptible of being so. It establishes, in the first place, the generality of tubercles of cineritious matter for each pair of nerves; secondly, the analogy of these tubercles with those called ganglions; lastly, the analogy of these two kind of organs, both with the cortical matter of the brain, and with the mucous expansions of the organs of the senses.

That each pair of nerves belongs originally to some tubercle, or, at least, to some portion of cineritious matter of some form, may be very readily maintained, with regard to the spinal nerves, and as far up as the par vagum, since cineritious matter to the attention of physiologists, the continuity of the fibres which extend from the medulla oblongata into the hemispheres, and into the cerebellum; which Vieussens first detailed, and the decussation of the filaments of the pyramidal eminences described by Mistichelli, by Francis Petit, and by Santorini, but with regard to which some doubt had been entertained.

2d, That they are the first who have distinguished the two orders of fibres, of which the medullary matter of the hemispheres appears to be composed; the one of which diverges from the pedunculi, while the other converges towards the commissures.

3d, That, by uniting their observations with those of their predecessors, they have made it very probable, that the nerves called cerebral ascend from the medulla oblongata, and do not descend from the brain; and that in general, they have very much weakened, not to say overturned, the system which makes all the nerves come originally from the brain.

But it also appears to us, 1st, That they have generalized rather in an inconsiderate manner, the resemblance of structure, and of functions in the various cineritious, or ash-coloured masses which are met with in the different parts of the nervous system.

2d, That the idea which they entertain of a solution of continuity in the middle of the medullary matter of each circumvolution, which would permit of its being unfolded like a pipe or a purse, requires to be expressed in more definite terms than they have hitherto done, so as indicate, that there is no complete proof of an absolute solution of continuity, but only of a more feeble cohesion.

We ought however to remark, that these two articles do not affect their general result, with regard to the kind of separation and of reserve into which they place the brain; and we ought, at the same time, to allow physiologists and pathologists to judge how far this kind of separation or laying aside, which anatomy seems to point out, is justified by facts, and how far it may favour the explanation of the numerous and astonishing phenomena of organic and animal life, and especially of those in which these seem sometimes dependant upon, sometimes distinct from, each other.

The entering into all these questions would engage us in endless discussions, and foreign to our commission.

Nor shall we propose to the class to decide upon the conclusion drawn by our anatomists, that there is no circumscribed place in the brain to which all the sensations go, and from which all the voluntary motions issue, but that both of these functions may be exercised in a greater or smaller extent of the nervous system.

This opinion is undoubtedly that of Haller, Bonetus, and of the greater number of physiologists. There can be no doubt that it is from having confounded the metaphysical simplicity of the soul with the physical simplicity attributed to atoms, that the desire has originated of placing the seat of the soul in an atom; but the connection of the soul and body being necessarily incomprehensible to our minds, the more or less limited sphere which it is wished to give to the sensorium would not, in the smallest degree, assist our conception of it.

But all these subjects are also too foreign to the business of the class; they are too slightly connected with physical facts; they lead to discussions too vague to form a proper object of attention for such a body as ours.

We think ourselves, however, obliged to finish our investigation, by remarking, that, if we were even to adopt the greater number of the ideas of Drs Gall and Spurzheim, we would still be far from knowing the relations, the uses, and the connexions of all the parts of the brain.

So long as we have not even a well-grounded conjecture with regard to the functions of the pituitary gland, of the infundibulum, of the mammillary eminences, of the cords passing from these eminences into the substance of the thalami, of the pineal gland, and of its pedunculi, we must apprehend, that any system whatever, with regard to the functions of the brain, is very incomplete, since it will not embrace these parts so numerous, so considerable, and so intimately connected with the whole of this important organ.

This is almost finishing with as much doubt, and as much uncertainty, as we began; but one can only require, on every subject, the degree of probability of which it admits; and the natural philosopher always performs his task very well, when he neither exaggerates, nor diminishes this probability, and when he fixes its degree with precision.

It is of importance to repeat once more, if it were only for the information of the public, that the anatomical questions with which we have been engaged in this report, have no immediate and necessary connection with the physiological doctrine taught by Dr Gall, with regard to the functions and the influence of the relative size of the different parts of the brain, and that all that we have examined with respect to the structure of the encephalon might be equally true or false, without any conclusion being drawn for or against this doctrine, which can only be determined by quite different means.

Given at the Institute, the 15th April 1808.

(Signed) Tenon, Portal, Sabatier, Pinel, Cuvier.

The class approves of this report, and adopts its conclusions.

Conform to the Extract,

(Signed) CUVIER, Perpetual Secretary.

THE INQUIRER, No. XVI.

Does a minute knowledge of Anatomy contribute greatly to the Discrimination and Cure of Diseases?

Mr Editor,

IT cannot be doubted that extensive knowledge, in every department of science, whether immediately or collaterally belonging to his profession, is both useful and ornamental to the physician; that, in proportion to its extent, it enables him to correct the prejudices of his early studies, to discriminate more accurately between truth and error in his inquiries, and to form his principles on more rational and philosophical grounds; and that it multiplies his resources in the actual application of them to practice. But it must be recollected that medicine is a science, very extensive and complex in its nature, and therefore difficult of acquisition; and that, as Hippocrates himself has reminded us*, our means and opportunities of improvement are comparatively few and deficient. It is therefore incumbent on the medical inquirer to endeavour to estimate correctly the relative importance of his different pursuits, in order that he may duly apportion the time allotted to the prosecution of each.

In a recent publication, addressed by Dr Beddoes to Sir Joseph Banks, on the subject of medical reform†, a scheme of study for six years is proposed, during four of which *anatomy* is recommended as the principal object of pursuit; and till the fourth year, no attention is advised to be paid to *clinical* medicine or *clinical* lectures. Now this, it appears to me, were, in a great measure, to mistake the means for the end; and to sacrifice much of the time to the erection of the scaffolds, which ought to have been employed in more gradually raising, and therefore more firmly consolidating the building. It seems to be the fashion, too, in other quarters, and especially in the anatomical schools of the south, to represent a knowledge of anatomy as the almost exclusive foundation of pathology and therapeutics; and to pretend to estimate the practical skill of the physician by the extent of his anatomical information A little inquiry will perhaps be sufficient to demonstrate the inaccuracy and futility of the arguments, or rather of the argument (for I have heard but *one*), which is generally brought forward on this topic.

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* Aphorism. I.

† See No. XV. page 378 of this Journal.

The argument, to which I allude, is perhaps at once the most plausible and weak,—the most conclusive apparently, but really the most futile, that the fancy can easily conceive. It is this: "He who is most accurately acquainted with the structure of the *machine*, must be necessarily the best able to detect its erroneous movements and obstructions, and to remedy its disorders."

This position is unquestionably true, in relation to a clock or a steam-engine; and, with the ignorant or superficial inquirer, the sound of the word *machine*, as applied in common to the animal and to inanimate structures, and the slight analogy between the two in a few obvious properties, stand in the place of logic, and supersede the trouble of research. But the inference from the machine to the animal body, and its complex economy, will appear, upon the slightest investigation, to be incorrect, and the practical conclusions altogether absurd. For what do they imply?

In the machine, the *principle of motion* is under our command and direction, we have access to all its parts, and can remove them individually, or disjoin and reunite them collectively, at pleasure; the source, the *proximate cause* of obstruction and disorder is obvious to our senses, and subject to local renovation by our hands, without detriment or inconvenience to the rest of the structure; and so on. Upon these points, there is not a tittle of resemblance in the animal economy, and its internal diseases. We have not the *principle of life* in our power, to suspend it, renew it, or impart it at pleasure; the sources of obstruction are hidden from our view; and we can neither change, remove, or restore a part, we cannot even interfere with its action, without influencing the whole system; nor do the derangements of the system consist in general in change of *mechanical* apposition, connection, or motion, which altogether constitute the derangements of a machine. What, then, we ask, does this absurd comparison imply?

It implies that anatomy can teach us the *proximate cause of eve-*

ry morbid appearance, and impart to us the power of *adapting local means of correction to all the disorders of the animal system*: just as Hudibras says,

> "As if a man should be dissected,
> "To find what part is disaffected."

and as if we could replace our cuttings, vein, muscle, and nerve, much to the man's advantage! We must apologize for commenting on so palpable an absurdity. How lamentably deficient our knowledge of proximate causes is, and how inadequate our means of removing them, is best known to the most experienced in our art.

Destitute, then, as we are, of the information and powers of the mechanist, the internal diseases of the animal body being rarely the result of mechanical change, and our remedies never acting by a mechanical principle*, it is obvious that we cannot build our practical skill upon a knowledge of mechanical structure.

The great discoveries in anatomy, by which any approach to a correct and rational knowledge of the animal structure has been attained, were accomplished within the last two centuries; some of the most important of them, even the circulation of the blood, and the existence of an absorbent system, at a less distance of time. But is our knowledge of diseases of such short duration? Were not diseases described and distinguished by Hippocrates, with an accuracy that remains the admiration of his successors, upwards of two thousand four hundred years ago? Do not his nomenclature and his diagnostics, confirmed and repeated by succeeding ages, remain, in a great measure, to give a character and complexion to the writings and systems of our own time? And do not the recent alterations of our practice in febrile disorders, consist in approximating again to the plan of the Hippocratic school, and in rejecting the hypothetical methods, sanctioned by the most learned physicians of two centuries past? Have not the practitioners of Rome, among whom Celsus, Aretæus, and Galen, stand pre-eminent, left us unrivalled memorials of their extensive pathological information, ignorant as they were even of the circulation of the blood? The fact is too obvious to be enlarged upon, and the inference is self-evident. A knowledge of diseases, having for centuries preceded the accurate knowledge of anatomy, cannot depend upon the latter as its cause or foundation.

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* These observations apply, of course, to internal and general diseases, which come under the cognizance of the physician, and not to external local diseases, which fall within the province of the surgeon. To the latter, the necessity of the most minute knowledge of anatomy cannot for a moment be questioned.

But if the notion of the *mechanism* of disease should still predominate, and it should still be insisted that great improvements have been accomplished by the moderns in physiology, pathology, and practical medicine, since the great discoveries in anatomy were made, while we recollect how much the advancements in physiology are to be attributed to the successful cultivation of all the departments of natural philosophy, within the same period, and of chemistry in particular, let us inquire to what extent the improvements in pathology and therapeutics are connected with anatomical science? How far the four leading points in the view of the physician, viz. the discrimination of diseases, the anticipation of their changes and progress, the indications of cure, and the knowledge of the powers of remedies, can be aided by minute anatomical skill?

What do we learn respecting the nature and distinctions of colic and enteritis, of cholera, dysentery, and diarrhœa, by a knowledge of the coats of the intestines, or of the arteries and nerves which ramify upon them? What has been added to our knowledge of the various modifications of fever, remittent and intermittent, endemic and contagious, symptomatic and idiopathic, since the secrets of the circulation were laid open, and the extremities of the nervous system traced? and what light has a minute acquaintance with the structure of the brain, contributed towards explaining the nature and diagnosis of palsy, of epilepsy, of hysteria, of tetanus, of idiotism, or madness? It is obvious that the anatomists have not been our teachers upon these points. It is impossible that they can elucidate all the variety of diseases, to which one and the same structure is subject, by the most intimate knowledge of its component parts. By tracing the vessels and nerves in the cutaneous papillæ, for instance, they can neither distinguish nor understand the better the multiplicity of cutaneous diseases, the small-pox and chicken-pox, the measles and scarlet-fever, the scaly, scabby, papular, and pustular eruptions, and "all the thousand ills the *skin* is heir to."

There are many phenomena of disease, which would appear to lie within the province of the anatomists, which are nevertheless altogether unexplained by any thing which the knife has discovered. They have not enabled us to point out the cause of the various morbid sympathies between distant parts; between the parotid glands and the testes, for example; between the uterus and the mammæ; between the kidneys and the stomach; the stomach and the brain, &c. Nor have they detected the connecting medium, by which some of the extraordinary *metastases* of disease occasionally take place.

But if the nature and distinction of diseases be learned independently of minute anatomical knowledge, the prognosis, or the anticipation of the future progress of the symptoms, (a very important part of the knowledge of the physician), is more completely unconnected with that sort of knowledge. Personal observation, or a knowledge of the precepts, deduced from observation by others, can alone teach us this. How could an acquaintance with the *torcular Herophili* or the *sella Turcica* lead us to anticipate delirium, in fever, when we marked an increasing head-ach, with redness of the eyes, and restlessness? Or how could a dissection of the cutis, cuticle, and *rete mucosum* teach us the danger of small and confluent eruptions of variola, and the comparative safety of large and distinct pustules, however numerous? This needs not illustration. The man of observation and experience, who might be ignorant of the existence of cuticle and *rete mucosum*, would be the best physician in all such instances.

Farther, if both the knowledge of the phenomena of diseases, and of the anticipation of their future changes, be the result of other studies, than those of the anatomist, the indications of cure also are evidently little benefited by accuracy of anatomical observation In determining on these indications, the physician is not led to think of the minute structure, of the congeries of arteries, and nerves, and cells, in the viscus or part diseased; his considerations regard the strength or debility of the system, the duration of the disease, the condition of the functions respectively, the probable events which must follow, and the particular temperature and idiosyncrasies of the patient; or his views are frequently altogether empirical, which implies that reasoning, whether upon structure or other data, is nearly out of the question. Can a physician be directed to prescribe blood-letting judiciously by a knowledge of the particular course of the arteries and veins? or to recommend with skill the administration of purgatives and emetics, by an acquaintance with the structure of the stomach and bowels? Would he not apply, with equal propriety and success, the stimulus of the aspersion of cold water, or the pungency of hartshorn, to a person in syncope, although he were ignorant of the nerves of the skin, or of the Schneiderian membrane? Were pleurisies and peripneumonies more successfully treated, after the arteries and veins of the lungs were described, and their cells injected with quicksilver? Or has diabetes been more effectually relieved, since the circulation of the kidney has been exhibited in a tree of wax? It would be as reasonable to affirm, that the practice of *nutrition* is more completely accomplished since the stomach was accurately dissected, and that the numbers of fat people, now existing, owe their *corpulency* to the discovery of the lacteals and the thoracic duct! Neither Bartholin nor Pecquet, we will venture to assert, ever dreamt of such a result of their discoveries.

It cannot for a moment be supposed that anatomy has contributed to teach us the nature and powers of remedies, any more than it has aided us in the choice of our food. For our knowledge of the virtues of opium, and cinchona, of mercury and antimony, we cannot be indebted to the dissecting-knife. Observation and experience, grounded generally on accident in the outset, have been the sole foundation of our acquisitions respecting the nature of these our instruments, without which all our anatomical and physiological information were vain. It was not from anatomical considerations, that Sydenham was led to adopt the cool treatment of small-pox, that Currie learned the advantages of cold affusion in fever, or that Rollo deduced the utility of animal diet in diabetes mellitus. In a word, the greatest anatomists have not been the greatest improvers of medicine, nor among the most eminent of its practitioners. On the contrary, the most distinguished physicians and acknowledged benefactors of the medical art, have not been remarkable for the cultivation of anatomy. Sydenham, Morton, Mead, Fothergill, Home, Huxham, Lind, Heberden, Pringle, were not minute anatomists.

Let us not, however, be misunderstood. We wish not to disparage the study of anatomy; to which we acknowledge that physiology owes much of the philosophical character, which it has now assumed, and that pathology has not been without its share of benefit from its cultivation. All that we contend for, is, that we can now have every advantage from the discoveries of anatomists, without spending our time in those long and ardent investigations with the knife, which originally led to their accomplishment; that by far the major part of the science and art of medicine is altogether unconnected with anatomical information; and that the actual observation of the phenomena of disease and the operation of remedies, is the great foundation of the physician's power and usefulness. Let a man be the most correct and minute anatomist, if he have not long and laboriously attended to the appearances and the treatment of diseases, however plausibly he may reason on the processes and functions of life, and explain their interruptions and modifications, which constitute health and disease, his knowledge will be but the vain speculations of the theorist, he will be *practically* more ignorant than many an uneducated nurse in an hospital. Let us not mistake the plausibilities of physiological and pathological reasoning, for actual knowledge, for they have their epidemic periods of change; nor let us believe that the curious part of our inquiries are always absolutely useful. " Etiam sapientiæ studiosos maximos medicos esse, si ratiocinatio hos faceret: nunc illis verba supperesse, deesse *medendi scientiam.*" Celsus.

We cannot, therefore, but condemn the proposal of Dr Beddoes, in directing the attention of the medical student, (we speak not of surgery) for so long a period as four years, to the cultivation of anatomy. Having endeavoured to shew how little the knowledge, that constitutes the physician, is connected with minute anatomical observation, and how absolutely and indispensibly necessary is the cultivation of *clinical* medicine, or the actual superintendence of the treatment of diseases, as the almost exclusive source of pathological and therapeutic science; we can only add, that a general knowledge of the structure of the animal body, especially of the structure, relative situation, and connection, of the viscera, appears to be all that is requisite to form the most able physician, even an Hippocrates or a Sydenham.

Medicus.

PART II.

CRITICAL ANALYSIS.

I.

Description and Treatment of Cutaneous Diseases. Order III. Rashes, Part II. On the Urticaria, Roseola, Purpura, and Erythema; and Order IV. Bullæ; on Erysipelas, Pemphigus, and Pompholyx. By ROBERT WILLAN, M. D. F. A. S. Physician-Extraordinary to the Fever-Institution, and to the Public Dispensary in London. 4to. pp. 159, with 9 coloured plates. Johnson, 1808.

IN the second volume of our Journal, page 56 *et seq.* we presented our readers with an analysis of the three preceding numbers of this work, which included the first and second orders, of *papular* and *scaly* diseases, and part of the third orders, of *rashes*, according to the author's arrangement. The fourth number, now before us, completes the third order, and comprehends also the whole of the fourth; of which we proceed to give a brief analytic sketch.

Order III. genus III. URTICARIA, or nettle-rash, is characterized by the round, oval, or longitudinal elevations of the cuticle usually denominated wheals, which have a white top, often surrounded by diffuse redness: they are not permanent, and have no tendency to suppuration. The nettle rash, though in many cases accompanied by fever, is not contagious. Dr Willan notices six varieties of this disorder; namely, Urticaria *febrilis*; U. *evanida*; U. *perstans*; U. *conferta*; U. *subcutanea*; and U. *tuberosa*.

In the urticaria *febrilis*, the appearance of the wheals, which are accompanied by bright red patches on the skin, is preceded for two days or more by the usual symptoms of pyrexia, and they are attended by a most troublesome itching, or tingling, which is greatly aggravated during the night. They appear and disappear irregularly, first on one part, and then on another, and they may be excited on any part of the skin by strong friction or scratching.

ing. On the appearance of the eruption, the pain and sickness at stomach are generally relieved, but when it disappears, those symptoms return. The duration of the febrile nettle-rash is seven or eight days. It occurs chiefly in summer, in plethoric habits, and free livers: it is often connected with teething in infants; is frequent among children from two to ten years old; and among adults affects men more frequently than women.

A disease very similar to the febrile urticaria is produced, in particular constitutions, by substances offensive to the stomach, such as almonds, mushrooms, herrings, crab-fish, muscles, and lobsters. The effect is instantaneous, and the symptoms are extremely violent for several hours, but the disorder seldom exceeds two days. Physicians have been induced, by such circumstances, to conclude, that the febrile urticaria originates generally from indigestion, or from some substances of a poisonous quality taken into the stomach.

Dr Willan recommends an emetic dose of ipecacuanha in the beginning of this disease. Antimonials are to be avoided, as they often operate with great violence in this complaint, and occasion fainting. A laxative draught with rhubarb and magnesia is requisite on the following morning, unless a spontaneous diarrhœa should have supervened. During the fever, the patient should be restricted to light and cooling diet, and should abstain from fermented liquors, heated air, and sudorific medicines. Peruvian bark, with vitriolic acid, is serviceable in the decline of the disorder.

2. The U. *evanida* is without fever, or extensive efflorescence. The appearance of the wheals, and the sensations of the patient, occur nearly as in the former species. The disease continues, with repeated eruptions, more or less extensive, for several months, or even for years. It occurs most frequently in persons of the sanguine temperament, especially in those who have a delicate stomach, and an irritable skin. The occasional causes are heat, fatigue, watching, agitation of mind, or anxiety, and a too stimulating diet. Females are much more liable to it than males. It may be often traced in its origin to some particular article of diet, which disturbs digestion, by omitting first one article, and then another. Thus malt liquor, spirits, white-wine, vinegar, fruit, sugar, fish, and unprepared vegetables, have been detected as the cause of this variety of nettle-rash in different persons. But in several cases, a total alteration of diet produced no alleviation of the complaint: in such instances, the sulphuric and muriatic acids, with magnesia, rhubarb, or other laxatives, given occasionally, were found to be the most successful remedies. Warm-bathing alleviates the complaint, and sea-bathing, when

persevered in for three or four successive months, is generally advantageous.

3. In U. *perstans*, the wheals are stationary, and the redness, which at first surrounds them, gradually disappears. It is relieved by the mode of treatment recommended in the foregoing species.

4. In the U. *conferta*, the eruption is full, and extensively diffused: the wheals in many places coalesce, or are indented by close contact, so that they have very irregular forms. The itching and tingling are almost incessant. This variety appears chiefly in persons who have a dry and swarthy skin, and are above forty years of age; it often continues many weeks. Its occasional causes seem to be, too much exercise, exposure to heat, rich or highly seasoned food, and the intemperate use of spirituous liquors. A cooling diet, with abstinence from malt liquor, white-wines, and spirits, should be observed. Alterative medicines, or tonics, are sometimes useful with this plan of diet, but without it they afford little alleviation. Warm bathing affords a temporary relief.

5. The U. *subcutanea* consists of violent and almost constant tingling or stinging in the skin, with other distressing symptoms, with an occasional appearance of wheals, at distant periods, especially during the summer, which indicate its character as an urticaria. The patients are liable to frequent returns of severe pain in the stomach, and to cramps in the muscles of the lower extremities; and they seldom have any sensible perspiration. The complaint is generally partial: it usually proves tedious and obstinate; but it may be relieved by gentle friction, and by the repeated use of baths of warm sea-water.

6. "In the urticaria *tuberosa* many of the wheals increase to a large size, forming hard tuberosities, which seem to extend deeply into the muscular flesh, and occasion a contraction in the sinews, with total inability of motion, and a sensation of pain in the bones. These tumours are usually whitish at their tops: they rise on the arms, thighs, loins, and calf of the leg, and are very hot and painful for several hours. The eruption, in all cases under my observation, took place at night, and before morning it wholly disappeared, leaving the patient weak, languid, and sore, as if he had been bruised, or had undergone much fatigue.

"The urticaria tuberosa often proves tedious and obstinate; I have known it continue, as above described, upwards of two years, with but a few short intervals. The only cause to which it could with probability be attributed, in the instance presented to me, were irregularities in diet, violent exercise taken by persons usually sedentary, and the too free use of spirituous liquors."

The fourth *genus*, ROSEOLA, seems to be of importance, chiefly, because the varieties of it are often mistaken, by inattentive observers, for other more important maladies; such as the measles, scarlet fever, &c. By this term, which Dr W. uses arbitrarily, it is meant to express " a rose-coloured efflorescence, variously figured, without wheals or papulæ, and not contagious." It can scarcely be considered as idiopathic, the author observes, but is connected with different fevers, and, perhaps, with different states of the constitution. He has described seven varieties, the principal of which are illustrated by engravings.

1. R. *æstiva* is preceded, from three to seven days, by slight pyrexia.

The rash appears in patches, which are generally larger and more irregular than in the measles. It is at first red, but soon assumes the deep roseate hue peculiar to this complaint. The fauces are tinged with the same colour, and a slight roughness, or enlargement of the tonsils, is felt in swallowing. The efflorescence usually appears, first in the evening or night, and continues vivid through the following day. It produces a considerable degree of itching and tingling, especially on the arms. On the fourth day, only slight specks, of a dark red colour, are perceptible: these wholly disappear on the fifth day, and with them the internal disorder. The roseola, as above described, usually occurs in summer, and affects women of an irritable constitution. Moderate diet, acidulated drinks, with occasional laxatives, generally alleviate the symptoms.

> " The Roseola æstiva," the author remarks, " on the first day of eruption, is often mistaken for the measles; but its colour, and the mode of its distribution, with the concomitant symptoms on the second day, must remove every doubt from the mind of an attentive practitioner. All practitioners, however, are not sufficiently attentive; so that a further mistake has been sometimes made, by confounding the Roseola æstiva with Scarlatina. I recollect an instance of this, in the case of a child who was affected with an extensive efflorescence, about midsummer, for several successive years. The attending physician informed the parents, that the scarlet fever had recurred, in their child, seven times."

2. R. *autumnalis* is frequently seen in children from five to ten years of age, in autumn. It consists of distinct patches, of an oval or nearly circular shape; increasing to about the size of a shilling, and of a dark hue; so that, at a distance, the skin appears as if stained with the juice of black cherries or mulberries. The internal exhibition of vitriolic acid, removes them in about a week.

3. R. *annulata* appears in rose-coloured rings, with central areas of the usual colour of the skin. The rings gradually dilate, and form large central spaces, sometimes nearly half an inch in diameter. The duration of the disease is uncertain: sometimes it commences with febrile symptoms, continues four or five days, and disappears as those symptoms decline. In other cases, which are without fever, the complaint is of a long duration, the efflorescence occasionally disappearing for several days, when pain in the stomach, sickness, vertigo, &c. come on. These symptoms are alleviated, or removed, by the use of the warm bath, after which the efflorescence generally returns. Sea-bathing, and the mineral acids, have been very advantageous in this complaint.

The remaining varieties, R. *infantilis*, *variolosa*, *vaccina*, and *miliaris*, do not require very minute description; they are accidental and symptomatic, and appear neither to be accompanied by, nor to indicate danger. The first variety attends dentition, fevers, and disorders of the bowels in infants: the second occurs during the eruptive fever of the small-pox, especially when inoculated, and is accounted by inoculators a certain prognostic of a small and favourable eruption; it is not liable to retrocession, as was supposed by the old inoculators: the third and fourth accompany occasionally the vaccine pock, and an eruption of miliary vesicles with fever.

The author states, in concluding this *genus*, that what he had supposed to be an efflorescence, consisting of four concentric rings, of different colours, with a yellowish central speck, and announced under the new generic term, *Iris*, under the third order, he has now ascertained to belong to the genus *Herpes*, one of the rings being vesicular, and the central speck a vesicule.

The title PURPŪRA, which designates the fifth genus of the order of Rashes, has been applied by different writers to various eruptions; to the red-gum, scarlatina, measles, and miliaria, as well as to lichen, urticaria, &c. Dr Willan, with Riverius, confines it to the purple spots which occur independently of fever; the *petechiæ sine febre* and *Hæmorrhæa petechialis* of some modern writers. He mentions three varieties of the complaint, Purpura *simplex*, P. *hæmorrhagica*, and P. *urticans*. The first and second appear to differ but in degree; the spots being larger in the latter, the debility greater, and a disposition to hæmorrhage, from those parts which are covered by a delicate cuticle, accompanying the efflorescence. The P. *urticans* begins with hard, reddish, and rounded elevations of the cuticle, which within twenty-four hours subside to the level of the surrounding surface, and are succeeded by livid spots of the same extent. It generally occurs in the summer and autumn. The author attributes the occurrence of purpura, to impure air, a sedentary life, poor diet, and anxiety of mind: and recommends moderate exercise in the open air, a generous diet, the free use of wine, Peruvian bark, vitriolic acid, &c. for its cure.

The author then gives a brief historical sketch of the observations of writers on this disease; cases of which, he thinks, have been studiously multiplied in medical miscellanies. He considers it, under all the forms described, "as pertaining to the scurvy:" though he allows that it is not always attended by the symptoms, included in the definition of scorbutus in nosology. In fact, we have known it prove speedily fatal, from excessive hæmorrhage; where neither the diet, situation, nor mode of life, could be blamed, and notwithstanding the administration of the remedies above mentioned, and when few of the symptoms belonging to scurvy, as described by our naval physicians, appeared.

Under the title of purpura *contagiosa*, Dr W. briefly notices the petechiæ connected with typhus, and other fevers. The proportion of cases of typhus, in which petechiæ occur, in London, is stated to be about one in thirty, in the prison of Newgate, and one in forty-two, in the House of Recovery.

The sixth genus of the rashes, is ERYTHEMA, which is defined, "a nearly continuous redness of the skin, attended with disorder of the constitution, but not contagious." Six varieties are described.

1. E. *fugax* occasionally occurring in fevers, (when it denotes a tedious and dangerous disease) as well as in hysteria, dyspepsia, hemicrania, gravel, and some other chronic complaints.

2. E. *læve*, with a uniformly smooth, and shining surface, appears chiefly on the lower extremities, and is generally accompanied by anasarcous swellings. The horizontal position, bark, diuretics, and afterwards exercise, are the remedies recommended.

3. E. *marginatum*, in which the patches are bounded, on one side, by a hard, elevated, red border. This border, which gradually elongates, does not form circles, but appears tortuous; it is slightly furrowed, and, in some places, papulated. The patches continue from three to six weeks. This form of erythema is without pain or irritation in the skin; but it is usually connected with some internal disease, and is deemed by the author an unfavourable appearance.

4. In the E. *papulatum*, the surface, as far as the redness extends, is at first rough or papulated: on the 2d or 3d day, when the colour becomes vivid, the papulæ disappear; but the skin continues red, and furrowed, for ten days or a fortnight. It affects chiefly the upper part of the breast, the neck, and fore-

arms. It resembles in some degree the lichen agrius, the distinction from which the author has stated. It is generally relieved by washing with tepid water, or thin gruel, by light coverings, by a temperate regimen, and by the vitriolic or muriatic acid taken internally.

Under this head, Dr W. ranks that species of intertrigo, which is produced, in some persons, by the attrition of contiguous surfaces; as beneath the breasts, round the axilla, in the groin, and at the upper part of the thighs; and is attended with a glairy and fetid secretion. This complaint is most frequent in very warm weather, and affects persons of the sanguine temperament, especially those who are corpulent. It sometimes terminates in the prurigo, or psoriasis scrotalis.

> " Frequent ablution, with tepid water, is necessary to allay the heat and uneasiness which attend this complaint; to remove the viscid secretion upon the surface, and to prevent excoriation. When the skin is fretted by the discharge of a thin acrimonious fluid, some relief is obtained by the application of dry absorbent powders; in case of abrasion and fissures, the unguentum foliorum sambuci may be applied with much advantage."

The author observes that a species of intertrigo takes place occasionally, at an advanced period of the lues venerea, on the upper and inner part of the thighs, on the scrotum, and between the nates. If this appearance be not referable to the use of mercury, it is at least not always removed by the mercurial course, but is generally relieved by preventing, as much as possible, the attrition of the surfaces, by tepid ablution, and mild restringent ointments.

5. E. *tuberculatum* exhibits irregular patches of red efflorescence, with round tumours slightly elevated. These subside in seven or eight days, but the patches of erythema continue a week longer, then turn livid, and gradually disappear. The disorder commences with fever, sometimes in paroxysms as severe as those of a quotidian ague; and in the intervals the patient is affected with great langour and faintness. During the second week of the eruption, the fever gives place to a state of weakness, morbid irritability, and restlessness, which is sometimes succeeded by hectical symptoms. Three cases, seen by Dr W., all terminated fatally.

6. The last variety, E. *nodosum*, exhibits many of the red patches in a large and rounded form, the central parts of which are gradually elevated, and on the 6th or 7th day form hard and painful protuberances, which are often taken for imposthumes; but from the 7th to the 10th they constantly become softer, and subside without ulceration. It has been seen by the author only on the fore part of the legs, in females, most of whom were servants.

vants. It is preceded by pyrexia. A purgative, followed by bark, wine, and acids, was in all instances successful.

A BULLA, or *bleb*, which constitutes the essential character of diseases of the fourth order, in this arrangement, is thus defined. "A large portion of the cuticle detached from the skin, by the interposition of a transparent watery fluid. Soon after the water is discharged, the excoriated surface is covered with a flat yellow or blackish scab, which remains till a new cuticle is formed underneath. When bullæ have a dark red, or livid base, they are denominated *phlyctenæ*."

This order includes three genera, erysipelas, pemphigus, and pompholyx. The author has not decided whether the two latter might be properly united, or whether the pemphigus should be considered as a distinct idiopathic eruptive fever.

"The erysipelas is a febrile disease, in which some part of the body is affected externally with heat, redness, swelling, and vesications. The tumour is soft, diffuse, and irregularly circumscribed; the redness disappears on pressure, and immediately returns when the pressure is removed."

In a note it is stated that erythema is distinguished from erysipelas, as it resembles an efflorescence, and is not attended with swelling, vesication, or any regular fever.

Dr Willan has described four varieties of erysipelas; 1. the *phlegmonous*, 2. *œdematous*, 3. *gangrenous*, and 4. *erratic*. The progress and characteristic phenomena of each are detailed at length; those of the *phlegmonous*, as they appear in the face, the lower extremities, and the hands, respectively. The first species, as its trivial name implies, is accompanied by a state of higher excitement in the system, than the others. In the *œdematous* the attack is less distinctly marked, the swelling extends more gradually, is of a paler colour, and pits upon strong pressure; delirium and coma ensue, and it often terminates fatally from the 8th, to the 12th, 16th, or 20th day. The *gangrenous* form sometimes begins like the first, sometimes like the second species; the swelling is of a dark red, inclining to a livid hue, and is puffed or soft to the touch; a weak pulse, brown tongue, and delirium, which is soon succeeded by coma, that remains through the whole course of the disease, are among its symptoms. Though this form of erysipelas does not prove universally fatal, it is always tedious and precarious. The *erratic* erysipelas consists of red patches, of an irregular form, which appear, one after another, on different parts of the body. It terminates for the most part favourably in about a week: in one case it proved fatal. An infantine erysipelas, and a variety sometimes appearing soon after variolous inoculation, are afterwards described.

It is stated, that the acrimonious lymph, contained in the phlyctænæ or vesications of a genuine erysipelas, if inoculated, or casually applied to any slight wound, in a person otherwise healthy, produces a similar disease. The erysipelas, however, especially the phlegmonous form, is not ranked by medical writers among contagious diseases. Dr Willan thinks it may sometimes be communicated from one person to another, and has published an instance, on the authority of Dr Pitcairn, in which a lady, her infant, mother, and servant, were successively attacked with erysipelas, of which the two first mentioned died. In hospitals, Dr Willan adds, even the symptomatic erysipelas, produced by a wound, or a puncture, has sometimes become contagious, and proved fatal to several persons in the same ward. The disease, he observes, in such instances, is probably combined with the typhus, or malignant fever. The following are the author's remarks on the practice in erysipelas.

" All the ancient writers, except Galen, recommend blood-letting as a principal remedy in the treatment of erysipelas. This practice must evidently be improper in the three forms of erysipelas, last described, and even in the erysipelas phlegmonodes, it does not always appear necessary. When the blood drawn is sizy, practitioners are often induced to bleed a second time; but we generally find, in London, that repeated blood-letting aggravates the symptoms, and protracts the disease. In a comatose or apoplectic state, the application of leeches, or cupping-glasses, at the nape of the neck, may be advisable.

" Many physicians object to blisters in erysipelas: I have applied them occasionally, between the shoulders, with manifest advantage, when the face and scalp were affected. I must, however, observe, that it is not safe to put either blisters or leeches, on or near to the diseased surface. Saline medicines, and preparations of antimony, or the compound powder of ipecacuanha, may be employed as diaphoretics, according to the circumstances of the disorder. The effects of camphor and the dulcified acids, in allaying the febrile symptoms, and preventing too great a determination of blood to the head, seem to have been much overrated by Hoffman and other writers. It is requisite, every other day, to administer a gentle purgative, since costiveness is an usual symptom of the erysipelas phlegmonodes. Dr Friend thinks the use of active purgatives indispensable in this disease, and has made some general remarks on the subject, which deserve attention.

" In the erysipelas œdematodes, we should employ blisters, diaphoretics, volatile alkali, and purgatives, during the first three or four days, and afterwards Peruvian bark, conjoined with diuretics. By these means, the duration of the complaint may be considerably shortened.

" In the erysipelas gangranosum, a free use of the bark is necessary throughout. The mineral acids, and opium, in moderate doses, are likewise of great utility. In other respects the plan and regimen is the same as in malignant fevers.

"The erysipelas erraticum requires nearly the same treatment as hath been already directed for the erysipelas œdematodes. When this disease affects infants, and shews a tendency to gangrene, the powder of Peruvian bark, or some preparation of it, should be diligently administered. Besides this remedy, the physicians of the British Lying-in-Hospital applied spirituous embrocations, particularly the camphorated spirits of wine, with signal success.

"External applications are seldom necessary in the other forms of erysipelas. In order to allay the irritation produced by the acrid discharge from the broken vesications, we may, from time to time, advantageously foment or wash the parts affected, with milk, bran, and water, thin gruel, or a decoction of elder flowers and poppy heads."

Dr Willan observes, that Sauvages has arranged under erysipelas the fatal epidemic disease, termed by the French historian Mezeray, and others, Feu Sacré, Feu St Antoine, Mal des Ardens, &c. which is now known to originate from *ergoted* rye, used as food. See Phil. Transac. Vol. LV. page 110, and Mem. de la Soc. Roy. de Medecine, for 1776, p. 303. A minute description of the ergot in rye is given by M. Tessier, who by feeding or cramming turkeys and other animals with it, produced in all of them the dry gangrene, and death. The symptoms of this singular and dreadful distemper are briefly stated, and the following interesting note is subjoined.

"The Morbus Hungaricus (Sennert. de Feb. Lib. IV. Cap. 14.) and some other diseases, reputed pestilential, might be added to the list of epidemics, occasioned by the ergot; or by a similar degeneration in other grain. The sweating-sickness, which occurred more than once in England, at the beginning of the sixteenth century, was perhaps owing to some disease or depravation in wheat, or to some noxious vegetable growing with it in particular situations. This disease extended chiefly over the northern counties, but neither affected the inhabitants of Wales, nor of Scotland, who did not, at the period mentioned, eat wheaten bread. "Qui montana Cambriæ incolunt, caseo, lacte, pane avenaceo atque hordeaceo vivunt: Hiberni autem et Scoti durius, &c. Car Claromontii, de aere, loc. et Ag. Terræ Angliæ," pag. 36.—A similar disease appeared, A. D. 1529, in Denmark and Norway, Holland and Flanders, at Hamburg, Bremen, Lubeck, Dantzick, Cologne, &c. See Forestus, de Feb. pag. 157. Sennert. Lib. IV. c. 15. It is observed by Schiller (De Peste Britannica), that birds at that time fell dead from the trees "passim," with small abscesses under their wings. This he refers to the poisonous quality of the air; but was not the effect, more probably, produced by damaged grain taken as food, according to the result of Abbé Tessier's experiments? See Schenkii, Obs. pag. 764. Galen has remarked, (De Aliment. Facult. Lib. I. Cap. 37.) that the seeds of lolium temulentum mixed with wheat, or the degenerated grain, called black-wheat, will produce fever, headach, delirium, and gangrenous ulcers.—This subject," Dr Willan concludes, "is not closely connected with my present undertakings; but it appears so interesting, that I hope some physician of abilities will find leisure and inclination to prosecute the research."

The two remaining genera, under the Order of Bullæ, are distinguished in the following terms: "The Pemphigus is an acute disease, characterized by an eruption of phlyctænæ or vesications, with an inflamed base, appearing in succession on different parts of the surface of the body, and sometimes in the mouth." There is no tumefaction or efflorescence, as in erysipelas. "The Pompholyx is an eruption of Bullæ, without any inflammation around them, and without fever."

Of the PEMPHIGUS the author describes three varieties; P. *vulgaris*, *contagiosus*, and *infantilis*. He has never seen an instance of the two first, and states only what has been said respecting them by authors. Under the first head he includes the Pemphigus major of Sauvages, the Febris vesicularis catarrhalis of Delius, (Amœnit. Med. Dec. I. cas. 9) the Febris pemphygodes seu bullosa of Seliger (Ephem. Ac. Nat. Cur. Dec. I. Ann. viii. Obs. 56.), which seems to have been the prototype of the description of pemphigus in several nosologies. Under the second head, he quotes an account of an epidemic disease described by Dr Langhans, a Swiss physician, in the Acta Helvetica, Tom. II. pag. 260. Symptomatic phlyctænæ and bullæ in the plague are mentioned by Dr Hodges, and also by Barbette and Etmuller on the pestilence; and Dr W. has observed a similar appearance in some cases of typhus, especially during the summer.

The P. *infantilis* sometimes occurs in weak and emaciated children, who are destroyed by the pain and irritation of the successive vesications and ulcerations.

The author concludes his account of Pemphigus by three queries: 1. Whether the case quoted from Seliger, is not a case of erysipelas phlegmonodes, with some incidental variations? 2. Whether in the cases quoted from Sauvages and Thierry, and Dr Dobson's case in the Transactions of the R. Irish Academy, the eruption was not symptomatic, and connected with the typhus or pestilential fever? and, 3. Whether the disease described by Dr Langhans was not rather endemic than epidemic or contagious, and referable to some local cause, like the Mal des Ardens, &c.?

The POMPHOLYX (Pemphigus sine pyrexia of Sauvages, and P. apyretos of Plenck), is divided into three species, *benignus*, *diutinus*, and *solitarius*. In the P. *benignus* the bullæ are as large as a pea, sometimes as a hazel nut; they discharge a mild lymph in three or four days, and presently heal. It occurs to boys in hot weather; to young irritable persons after taking a few grains of mercury, or some acrid vegetable substances; and to infants during dentition. The P. *diutinus* is a tedious painful disorder, chiefly affecting persons of a debilitated constitution, and particularly severe in those of advanced age. The vesications occur in succession, and, if rubbed off, leave a sore and inflamed surface, which does not readily heal. The disease in some cases continues two months, in others three, four, or even five months, so that the whole number of bullæ has amounted to several thousands. The pain, loss of sleep, and confinement, at length produce a nocturnal paroxysm of fever. The cases of *Pemphigus* described by Mr Upton, Mem. of the Med. Soc. of London, Vol. III. appendix, and Mr Gaitskell, Ibid. Vol. IV.; by Dr D. Stewart, Med. Commentaries, Vol. VI.; and Mr Christie, Lond. Med. Journal, Vol. X. agree with Dr W.'s account of Pompholyx. The warm-bath, used every second day, has been found the most effectual remedy in the author's experience; but not in young persons. "In children, or in persons under forty years of age," he says, "I have seen it generally removed, within three weeks, by Peruvian bark combined with diuretics, especially with the powder or tincture of digitalis."

In the pompholyx *solitarius*, large vesications arise, on some part of the body, one after another, at nearly equal intervals of time, at the distance of two or three days, sometimes to the number of six. It is rare, and seems only to affect women. Peruvian bark was given with advantage in three cases, which the author saw.

As we have already expressed our hope, that this work will be assumed as the standard of reference by subsequent writers, we have deemed it more useful to our readers, to give an abstract of the contents of this part, than to enter into any discussion on the subject.

The plates are excellent representatives of the different eruptions. A title page is given with this part, which completes the first volume.

II.

Cases of Diabetes, Consumption, [illegible]. *with Observations on the History and Treatment of Disease in General.* By ROBERT WATT, Member of the Faculty of Physicians and Surgeons, Glasgow, 8vo. pp. 328. Paisley, 1808.

PHYSICIANS seem now to be gradually recovering from those delusions with which a false theory, more than mistaken or unguarded observation, had beset them. Indeed, we have witnessed so many signs of the decline of the stimulating method of cure in the greater number of acute diseases, and in some chronic, that we have long since ventured to proclaim its downfal and disgrace. And we have seen enough to persuade us, that this approaching revolution will tend to the improvement of practical medicine.

The practice founded on the Brunonian doctrines of debility, excitement, and stimulus, has slain, we believe, in sincerity of heart, its thousands and ten thousands. This doctrine not only set all former observation and experience at defiance, but so strong a hold had it taken on the imagination of its votaries, that medicine appeared to them unsusceptible of farther improvement. We remember the horror and incredulity that was excited some years ago, by the evacuating system of Dr Rush and of some West India practitioners, in the yellow fever; and how a celebrated German professor, of the stimulating school, shrugged up his shoulders, and prognosticated the certain death of a patient in our infirmary, labouring under typhus, when he heard his physician prescribe some necessary evacuations: But the practice of Dr Rush was successful, and our condemned patient speedily recovered. The most obvious and most fatal error of the doctrine now alluded to, was, that every evacuation was necessarily and directly debilitating, and that strength and excitement could only be effected by stimuli. In fevers, therefore, all evacuations were dreaded, while wine, brandy, and opium were considered as sovereign remedies, and too often employed with little discrimination, and still less regard to the state of local symptoms and organic affections. This fashion has passed away; and we now see physicians prescribing topical and general bleedings, drenching their patients with cold water, and scouring them with jalap and calomel, without at least any increase of the mortality of our fever wards.

Our dread of debilitating by such evacuations had been greatly lessened by the example of foreign practitioners, and by the writings of some enlightened physicians of our own country, particularly of a Currie, Jackson, and Hamilton.

These revolutions in the practice of medicine are calculated indeed to excite in our minds no inconsiderable degree of scepticism, and almost tempt us to conclude, with some, that nature triumphs more than art in the cure of diseases, at different times so oppositely treated. The truth is, that in fevers, there is no practice invariably proper; the physician must be guided by symptoms and circumstances; sometimes he must moderate by an antiphlogistic treatment the dangerous reaction of the vascular system, and sometimes he must support the vital energy by cordials and stimulants; but, at all times, he will find it useful to remove sources of morbid irritation.—We have no hesitation, therefore, in believing that physicians are in a much fairer way, as well as their patients, now that they have recovered from the delirium of Brunonian excitement.

In the treatment of chronic diseases also, we have heard less of beef-steaks, wine, and tonics, than we used formerly to do, and much more of temperance, exercise, and evacuation. The valuable observations of Dr Hamilton on the exhibition of purgative medicines, seemed to lay open new views of the pathology of some of those chronical diseases, which might lead to improved modes of practice.

Still, however, we were little prepared to anticipate such a system of depletion, and results so singular and unexpected as are exhibited in the very interesting volume now before us.

These, it is true, rest solely on the authority of Mr Watt, and have yet to pass the ordeal of general experience. But the observations are such as could hardly lead to any mistake; and they appear to have been carefully noted, and faithfully related. At any rate, they are now before the public; and as they are much too interesting to be long overlooked or neglected, the experience of others will soon, we hope, enable the profession to decide on their general application. For the present, it shall be our sole business to lay a short abstract of Mr Watt's observations before our readers, earnestly recommending them, however, not to be satisfied with this, but to consult the interesting original.

The exclusive use of an animal diet, as taught us by Dr Rollo, has certainly done more for diabetic patients than any method of treatment heretofore tried. Some few have been entirely cured by this plan, and a greater number have been partially, and for a while relieved. But, upon the whole, its success has fallen far short of the expectations which the first publication of Dr Rollo's cases had raised. With Mr Watt it had uniformly failed, even when patients could be confined altogether to animal food, to which they have often an unconquerable reluctance.

The method of treating diabetes, to the success of which our attention is now invoked, consists in a strict antiphlogistic regimen, abstinence, and repeated venesection. When we reflected on the symptoms and progress of this disease, on the debilitated and impoverished system of diabetic patients, the vast and consuming waste of the solid and fluid parts of their bodies, and the imperfect action of their digestive and assimilating organs, we were ready to declare, with Captain Meredith's physician, that unless we met with a criminal having the disease, no request or opinion could induce us to perform *blood-letting* in such a case.

But instead of those disastrous consequences which our preconceived notions would have led us to expec[illegible]e find, from the cases now before us, that the force of the syst[illegible], and the actions of the different functions increased in proportion to the evacuations, and that by these the disease was speedily subdued. These evacuations of blood, however, were neither sparing nor ordinary, but such as some practitioners would hesitate to make, even in well marked cases of inflammation, such as many would deem sufficient in the most violent case of pneumonia. For one of Mr Watt's patients was blooded to the extent of 108 ounces in less than two weeks; and the patient, so far from being exhausted or debilitated by this treatment, became stronger and more active under it, and the disease yielded, symptom after symptom, as the blood was evacuated. One of the most singular, least expected, but easiest appreciated effect of this detraction of the circulating fluid was, we think, the salutary change produced in the constitution of the blood itself. In inflammatory diseases, as we repeat our blood-lettings we expect the buffy coat to disappear, and the firmness, solidity, and cupped form of the coagulum to diminish more and more. But in these cases of diabetes, the very contrary of all this obtained. The blood first drawn, was thin, and without buffy coat; the coagulum was so soft and weak, that it could not support its own weight, and was torn by the slightest force; as the operation was repeated, the blood assumed more and more of the inflammatory character, and exhibited at last a thick buffy coat, a strong, firm and tenacious crassamentum, contracted on its upper surface to the size of a shilling. "The improved texture of the blood, as venesection was repeated, the increased hilarity of mind, and general renovation of the living functions, warrant the conclusion, that however weakening it may be in particular circumstances, blood-letting is a most important mean of disburdening the system, and of preparing the way for the final re-establishment of health and vigour."

Under the title Diabetes, five cases are detailed at considerable length. The first, a well-marked example of diabetes mellitus, seemed, for some time, much relieved by the use of animal food, and elixir of vitriol; but the patient died a few weeks after his return home.

The second case is that in which Mr Watt first experienced the good effects of venesection. The patient was a labourer, aged 36. The diabetic symptoms supervened to cold, caught in the preceding spring. He came under Mr Watt's care on the 1st September. The principal symptoms at this time were, insatiable thirst, with dry parched mouth; impaired appetite; gums spungy and ulcerated; foul and white tongue; heat, and soreness in the region of the kidneys, and along the course of the ureters, particularly before making water; want of venereal powers and desires; lowness of spirits; debility and emaciation; skin harsh and hide-bound; pulse 60, weak and quivering; calls to urine frequent and urgent; the quantity voided in twenty-four hours estimated from twelve to sixteen pints; in colour pale straw, and of a fragrant odour and sweet taste. He was ordered a dose of castor oil, and to confine himself to a diet of animal food. This was persevered in from the 1st to the *4th instant;* but it did not agree with his stomach; he had vomited, and conceived great reluctance to his diet. The thirst was now more severe; the *urine thirteen pints*, and strength declining rapidly. Some mucus coughed up, was followed by a little blood; this circumstance, with the recollection that Captain Meredith, on the evening after blood-letting, "felt lighter, cooler, and more cheerful, and had less pain about the kidneys," determined Mr Watt to bleed his patient; which he did, to the amount of fourteen ounces.—September 5th. The symptoms seemed much relieved; *urine nine pounds and a half;* the crassamentum of the blood black and void of tenacity. Finding so much relief from the first bleeding, Mr Watt resolved on a second. Eighteen ounces were accordingly taken from the arm; pulse, before bleeding 50; after bleeding, 48, and pretty firm. Ordered to keep as closely as possible to the animal diet, with a small quantity of bread to every meal; and, to obviate acidity, forty-eight grains of carbonate of ammonia, prescribed in pills, to be taken daily.

6th. Appetite better; slept soundly; thirst less; urine little more than *nine pints;* pain across the region of the kidneys abated, crassamentum of blood so void of tenacity, that it cannot be elevated with a probe above the surface of the serum. Pills and animal diet continued.

7th. Urine as yesterday, and still sweet to the taste; pulse 64, soft and regular; was blooded for the third time, and to the amount of eighteen ounces. A flannel shirt ordered.

8th. *Urine little more than seven pints*, still sweet; thinks himself better; thirst is less; gums more healthy, and teeth firmer; blood as the last; skin dry, harsh, and scaly. On this last account, antimonial powders were prescribed, one to be taken every second hour, till some effect be produced.

9th. Vomited after taking the second powder; what he vomited was very acid; he feels almost no thirst; his spirits are light, and his mind cheerful; urine little more than *five pints*, and has a pretty strong urinous smell, and *salt* taste.

Pulse 76; *blood-letting repeated to eighteen ounces;* on tying up the arm, the patient became faintish, and went to bed. An unusual warmth was diffused over the body, and soon after a gentle perspiration broke on his temples, and some other parts; pulse fell to 70; the blood is a little sizy, and the crassamentum is more tenacious.

10th. Perspired a little during the night; the ulceration, purple margin, and sponginess of the gums, are quite gone; tongue clean and natural; pulse 60, firm and regular; *urine little more than four pints*, of a pretty high colour, saltish taste, and urinous smell.

11th. Not so well; urine rather more than seven pints; pulse 80, firm and regular. Carbonate of ammonia to be repeated.

12th. *Urine eight pints;* his appetite has been keen, and he takes more food than he can well digest; he is desired to eat less.

13th. Urine little more than *seven pints*, *somewhat sweet to the taste;* slight headach; tongue foul; pulse 80, weak, but regular; there is clearly an aggravation of the disease. Flattered by former success, Mr Watt had again recourse to the lancet, and took from the arm in a pretty full stream, *twenty-four ounces of blood.* This the patient bore well, and without feeling the least faintish; pulse, after the bleeding, 72, firm and regular.

14th. *Urine only four pints, and in taste, smell, and appearance, nearly natural.* "He walked in the afternoon, and was astonished to find a degree of strength and agility, to which, for many weeks, he had been a total stranger." Re-appearance of the powers of virility; pulse 74, firm and regular; blood drawn yesterday inflamed, cupped, and tenacious. "The most violent cases of pneumonia, or acute rheumatism, do not shew the blood more sizy and morbid in its texture." Lime-water prescribed.

15th. *Urine three pints and a half:* no thirst. Continues better.

16th. Has had a gentle moisture over the body; the skin becoming soft and healthy, the old cuticle desquamating; gums healthy; strength greatly recovered; urine three pints and a half. At his own desire, 16 ounces of blood taken from his arm in a full stream; pulse, before bleeding, 72; after it, 70, firm and regular.

17th. Urine not quite *three pints*, has a very salt taste, and strong urinous smell; blood remarkably inflamed, buffy coat, thick, firm, and contracted.

20th. Strength gradually improving; was at work all day yesterday; in short, from the 14th instant, it appears from the reports, that he has rapidly convalesced. The diabetes appears cured; nor did he afterwards suffer any relapse. The reports of this case, which we have so far presented to our readers in a very abridged form, are carried on by Mr Watt to the 4th February, 1808, when the patient continued well. The whole case is very minutely detailed, from first to last, by our author. We have only noted occasionally those circumstances which serve most strikingly to connect the recovery of the patient with the treatment pursued. No one, we apprehend, can fail to remark the connection between the changes in the quantity and qualities of the urine with the different blood-lettings; and few will be disposed to attribute much to the different medicines occasionally employed, as the carbonate of ammonia, the antimonial powders, laxatives, lime-water, and bitters. The diet, it is true, all along consisted, in a great part, of animal food, but with some allowance of vegetable aliment. In short, as Mr Watt has remarked, "Venesection is certainly the most prominent feature in the treatment. The abstraction of one hundred and eight ounces of blood, in less than two weeks, must have had a decided effect. He experienced relief in his feelings every time, and even during that profuse evacuation gained strength." Yet, again to use our author's words, "In this instance, venesection was employed in the most forbidding circumstances. The pulse was slow, feeble, and not altogether regular; his strength and spirits were almost gone; the lower extremities had been œdematous to the haunches, and were always cold and lifeless." He concludes, by stating the following general observations on the good effects of the evacuating treatment.

"Even the first bleeding produced a degree of hilarity, to which for many weeks, he had been a total stranger. After the third, the pristine vigour of his mind was completely restored, and his feelings rendered more comfortable. After the fourth, the pulse rose to about 80, became firm and regular, and some degree of perspiration appeared on different parts of the body. Still, however, there was no very remarkable change produced on the urinary discharge. After the fourth, there was evidently a relapse. The fifth seemed to act like a charm. The recovery after this was instantaneous and striking. The painful sensation in his bowels left him; the powers of virility returned; the gums became sound; the skin soft and perspirable; the saliva, the urine, and the alvine discharge natural; in six days he returned to his work; in two months he was restored to his original strength."

The next case is that of a student, aged 23. For some time before coming under the care of Mr Watt, he appears to have suffered much from dyspeptic symptoms, lowness of spirits, and inability of mental exertion. His urine increased in quantity and very frequently voided. He complained also of uneasiness and pain in the region of the kidnies. His skin was hidebound; the gums spongy and ulcerated; and he was feeble and reduced. Pulse 80, very weak, but regular. The quantity of urine was six pints, two pints of which yielded one ounce seven drachms of extract, of the consistence of honey, and saltish to the taste.

The reports of this singular case are also very fully detailed. We had prepared an abridgement of them, that we might preserve to our readers the regularity of a journal, and enable them to form some idea of the effects of the uncommon treatment followed by Mr Watt; but we must content ourselves with the summary which Mr Watt himself has given us, and refer for the reports to the original. It matters little, whether we allow this to be really a case of well marked diabetes or not; it is at least one of great general debility, with local irritation of the urinary system, successfully treated by depletion, and an antiphlogistic regimen,—one in which health and strength were restored, though about one hundred and fifty ounces of blood had been withdrawn from the circulation during the treatment.

"During the first period, which extended from the beginning of October till the 13th, the patient abstained from animal food, wine, spirits, and every thing of a heating or irritating nature. The bowels were kept moderately open; diluents were freely used, and an opiate taken at bedtime. This practice was persisted in for eleven or twelve days, without any advantage. On the contrary, the number of times of voiding urine had increased from eighteen to twenty-six or twenty-seven. The pulse had become weak and intermitting; he had lost three pounds of his weight, and his strength and spirits were declining rapidly. The quantity of urine varied from five to eight pints; at times it equalled the whole liquid ingesta, and afforded, by evaporation, a copious extract.

"In the second period, which extends from the 13th October till the 26th of the same month, the patient as to meat and drink, was allowed to live pretty much in his own way; the bowels were kept moderately open, and the opiate was occasionally continued at bed-time. On the evening of the 15th, and morning of the 16th, the patient was persuaded to eat beef-steaks, and found all the symptoms greatly aggravated. The four succeeding days he was very abstemious, and every thing seemed to wear a more favourable aspect. On the 20th his appetite became keen, and a second indulgence produced a second relapse. On the 21st the emetic had a good effect, but, on the 23d, his appetite returned, and it was thought hard to deprive a person of nourishment, when his body was sinking so rapidly, and when the depletion had been so considerable. He was bled six times, and had lost above an hundred ounces of blood. But notwithstanding the continuance of some of the most distressing symptoms, the improvement, in this period, was very conspicuous. The pulse, from being weak and intermitting, had become firm and regular; the inflammation of the eyes was gone, and his vision had become strong and distinct; the blood, which he used to pass with his urine, had left him, and the urine itself was diminished in quantity, and more natural in its appearance. But the most striking improvement was the restoration of the mind to its wonted energy.

"In the third period, from the 27th October till the 12th November, his health and strength were rapidly on the decline. Various injections were tried to allay local irritation, but without any advantage. The perinæum was blistered repeatedly. At first, this seemed to afford some relief; but after a more extensive trial, it was found unavailing. The anodyne was increased from thirty-five to sixty drops, and afterwards to an hundred; but even this very large dose produced but a transient respite from the pressure. In this period, the greater part of his diet was animal food; for the last seven days it was entirely so; but made no impression on the disease.

"The fourth period extends from the 12th November till the middle of December. In this interval the treatment was completely changed, and the progress towards recovery was uncommonly rapid. At the commencement, though the patient was greatly worse on the whole than he had been at all, yet, in some respects, he had not relapsed to his original condition. The mind continued serene, and even retained a considerable portion of energy; the blood was still inflamed, and of due consistence. In this period he was bled four times, and lost about fifty ounces of blood. Seven blisters, each of them nearly the size of the hand, were applied to the region of the kidneys, and a pretty rigid abstinence was observed ed. No medicine whatever was used till the 29th November, when he began the lime water, which seemed to have a happy effect on the state of his stomach and bowels, and probably contributed to his final recovery."—p. 134-137.

The fourth case, a lady aged 57, bears in many respects a resemblance to this last. There were pain and weakness of the region of the kidneys, impaired strength, and dejection of spirits; increase of urine, and frequent uneasy micturition; thirst, and foulness of tongue; the gums spongy and ulcerated; the skin dry and harsh; the feet œdematous and cold, with vertigo, dyspnœa, and palpitation. She came under our author's care on the 26th March; and, by the evacuating plan, she was freed from all her complaints in the course of three weeks, and began to recover her flesh and strength.

> "The treatment of this case was more simple than any of the former, and though the patient was considerably advanced in years, yet that circumstance seemed neither to hasten nor retard the cure. After the intestines were well evacuated with castor oil, the patient was bled, in the course of a week, to the amount of fifty-two ounces. The blood had nearly the same appearance as in the other two cases, but had not acquired such a degree of consistence before venesection was given up. She was blistered first over the one kidney and then over the other, and, lastly on the head; from all of which she experienced relief, and bore their application with a degree of fortitude that I did not expect, considering the debilitated state of her mind."—p. 168-9.

The fifth and last case of diabetes stands chiefly as another record of the fatal nature of the disease, and as a proof of the conversion of diseases; for here the diabetes assumed at one time the character of dropsy, and afterwards a diarrhœa put a period to the life of the patient.

To the detail of these cases, Mr Watt has added many important and judicious observations, illustrative of the history of this singular disease, which our limits oblige us to pass over in this place.

Our author proceeds now to make some more general physiological and pathological remarks on the history and treatment of disease in general.

The functions of the lungs, it is observed, are twofold, to assimilate the new materials supplied by the digestive organs, and to preserve the blood in a healthy state. In health there must be a due balance between the digestive and assimilative organs. If this balance be disturbed, disease ensues. This loss of balance may arise either from an increased action of the lacteals, or from an impaired action of the lungs while the lacteals continue their usual functions. And, in either case, there being more chyle thrown upon the lungs than they can assimilate, it must remain an incumbrance upon the system, or be discharged by one or other of the excretories.

Another function of the lungs is to repair the blood deteriorated in circulating through the body. By passing through the lungs, the blood becomes a proper stimulus to the left side of the heart, to the aorta, and its branches. By circulating through the aortic system, it acquires an opposite property, which renders it stimulant to the right side of the heart and pulmonary arteries. Now, the destruction of this balance is another source of disease. If, by cold, or other causes of retardation, the blood is longer of being returned to the right side of the heart, it becomes more than usually deteriorated, and that in proportion to the time it is absent from the lungs, which, therefore, have more work to do in order to restore it, and the operations of the pulmonary system are consequently thrown behind.

> "We have thus pointed out two sources of disease; the one arising from cold or any other means which can retard the circulation, the other from an inequality of action between the lacteals and the lungs. Disease is generally begun by the former and protracted by the latter. When the lungs, in repairing the blood already in the system, have more to do than they can well perform, they can ill bear the introduction of new materials.
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> "It has been observed, that the nervous and sanguiferous systems act reciprocally. The blood may be deteriorated, and yet support life in an imperfect manner. The vessels which increase and repair the solids may be in want of proper materials, though the system be overcharged with blood. The nervous system being deprived of its natural support from these vessels, acquires a depraved sensibility, and being acted upon by an unnatural excitement, all the phenomena follow, which we have described as attending a diseased habit. The greatest number of the excretories are idle from want of arterial blood, the only stimulus which can call them into action. The liver, receiving its stimulus from venous blood, has more to do than in health; hence the origin of bilious complaints, which, with low spirits and prostration of strength, generally mark the first stage of disease."

The balance is restored by reaction.

> "The power of reaction resides in the solids. The blood, by being long absent from the lungs, acquires a property which renders it stimulant to the right side of the heart, and to the pulmonary arteries. By their action, the blood is poured into the lungs, where it receives a new stimulus and is sent to the left side of the heart, circulates through the body, and is again returned to the lungs. This rapidity of circulation, to make up for

the time which has been lost, is fever. The oppression on the lungs, if remarkable, becomes dyspnœa or asthma.

"If the system possesses sufficient vigour, the reaction goes on to a proper crisis, that is, till the blood be restored and become the natural stimulus of the nervous system, the proper food for the excretories, and for the vessels which repair the solids. In place of fever, the balance is often restored by a critical evacuation. If the superfluous matter take to the intestines, it produces diarrhœa; if to the kidneys diabetes; if to the uterus menorrhagia; if to the cutaneous exhalents profuse perspiration. All these evacuations, to a certain extent, are salutary. They often prevent fever, shorten its duration, or render it more mild. If the reaction fail to produce a salutary crisis, the system falls back, collects new vigour, and resumes the conflict, as in intermittent fever and other periodical diseases. In other instances, such as hypochondriases, it repeats the same thing over again, or tries other means of relief, and is thus said to counterfeit every disease; that is, it employs many efforts to throw off the incumbrance, but is generally unequal to the task. After a longer or shorter struggle, a confirmed phthisis, diabetes, diarrhœa, dropsy, or some other disease terminates the patient's sufferings.

"In a great many instances, the practitioner has to contend with diseases of a different description. His object is not to excite reaction, but to render it more moderate. Inflammation arises from reaction coming on too suddenly. If a limb, after exposure to a great degree of cold, be suddenly warmed, inflammation, and perhaps even gangrene, are the consequences. When a part of the body has been cold, and wanted, for a while, the stimulus of arterial blood, if the circulation be suddenly restored, it is apt to suffer the same fate. Inflammation, in the last instance, arises from the same cause as in the first; from the too sudden application of heat. If proper means had been used to repress reaction, the organization of the part might have been saved.

"The resistance resides in the fluids. If the action of cold, or any other cause which retards the circulation, be long continued, or, if the patient take too much food, the solids are overpowered, and no effective reaction can take place. The quantity of the blood is so far above the power of the lungs, that little or no arterial stimulus can be communicated to it. The system, after a longer or shorter struggle, gives up the contest, and the unhappy victim either dies, or drags out an existence, more dreadful than even death.

"When reaction recurs from time to time, but is inadequate to restore the system, diseases are called chronic. When it comes on rapidly, or is too violent in its exertions, they are denominated acute."

There is considerable ingenuity, and, we apprehend, much fancy in this pathology, upon which, however, Mr Watt endeavours to ground the explanation of his practice. The observations which follow under the title *practice*, are chiefly applicable to the treatment of chronic diseases—or to the general means of correcting diseased habit. And the principal means, according to Mr Watt, are abstinence, and evacuations. His remarks on diet, emetics, purgatives, diuretics, diaphoretics, and venesection, are connected with his peculiar pathology; but though general, they are important, in so far, especially, as they have been actually carried by him into effect, and with great advantage. Symptoms of seeming debility, coldness of the surface, faintness, small unequal pulse, furnish, according to Mr Watt's view and experience, no objection to these evacuations, not even to repeated venesection. All these rapidly disappear, as the system is relieved from the resistance arising from the fluids. And venesection is held forth as one of the most powerful means of regulating the reaction of the system, whether this may be depressed or exalted.

> " It is not sufficient," he observes, " that patients be bled till the more urgent symptoms are removed. After this, they often remain weak and languishing, subject to cold shiverings, on the least exposure, with a universal tremor; pulse sometimes quick and full, oftener small and indistinct; tongue very white; a want of regularity in the excretions; generally one of them in excess and the rest deficient: a want of sleep, with universal restlessness and anxiety. These symptoms are generally attributed to the loss of blood, and we are told that nothing can remove them, but time and nourishment. To prove the fallacy of these assertions, it is only necessary to enjoin abstinence, and bleed the patient again. The relief obtained from venesection, in these circumstances, is not less striking, than in any other stage of the disease. The blood is always inflamed, and, on cooling, exhibits a very thick buffy coat.
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> " If the evacuation be carried a sufficient length, the cold shiverings and tremors are removed; sleep is restored; the pulse becomes soft and regular; the excretories resume their healthy functions; the patient experiences great relief in his feelings, and an uncommon degree of mental serenity and cheerfulness succeeds."

Another remedy which Mr Watt speaks highly of in the correction of diseased habit, and from which, he thinks, the most beneficial effects may be derived in the treatment of chronic diseases, is mercury. It acts as a stimulant to the arterial system and excretories, and excites, and promotes reaction, while venesection, by diminishing the quantity of the fluids, obviates resistance.

> " We are often told of the pernicious effects of mercury on the constitution; but if I were to judge from my own experience I

would form an opposite conclusion. In cases where mercury was carried to such a length that the patients have been for two weeks without tasting almost either meat or drink, the cure was most complete. In some instances this was done where the patients were supposed to have suffered greatly from previous salivations; and so far from injuring the constitution, the process appeared to give it new energy, and the most perfect health has been the consequence.

"Several years ago, I treated a person above seventy, with a course of corrosive sublimate; the mouth in a short time was so much affected, that for fifteen days he neither ate nor drank; his body was much reduced, but he had a rapid and complete recovery, and has since enjoyed excellent health.

"The bad effects of mercury, like those of venesection, are to be attributed to not carrying the process a sufficient length at once. A cure from mercury is not to be expected, while the patient's body remains unreduced, and while he continues to take his usual diet. Venesection contributes to the former of these, and the sore mouth effectually secures the latter."

To these general observations, our author has added some cases and remarks on the history and treatment of asthma, cholera, colic, consumption, chorea, and plethora. The general scope of these histories and reflections is to shew, that a cold stage or interrupted balance between the circulating and pulmonic systems, always precedes the stage of reaction which properly constitutes the diseases, and to illustrate at once his general doctrine, and method of treatment in all of them. In the case of chorea and convulsions, the boy, aged four years and three months, had been vomited and purged smartly without benefit; purgatives too were continued throughout the cure; but two large bleedings from the jugular vein, the first to the amount of nine ounces, and the second, four days afterwards, to the amount of ten ounces, had evidently the merit of putting a stop to the violence of the disease. A few grains of calomel at last brought away a large lumbricus, and a number of very hard scybala.

"This case," it is observed, "seems to prove, that the convulsive motions do not depend on obstruction of the bowels, for they were completely removed, even while the hardened scybala remained. I am apt to think that the convulsive motions, the torpid intestines, the chilly state of body, and the peevish irritability of mind are merely symptoms of diseased habit. The bleeding had an instantaneous effect in relieving them; *after the system was repaired*, a few grains of calomel enabled the intestines to discharge scybala, on which doses three or four times as large had no effect in the earlier part of the treatment."

We have now done with Mr Watt, whose book contains many important observations and reflections. The practice, so different from any thing we have been hitherto converſant with, has surprised us much, not less on account of its seeming success, than of the persevering boldness with which it has been followed up in the face of every professional prejudice. Nothing could have carried Mr Watt through with this, in the sick-room of his patients, nor induced him to submit the whole to the public eye, but a conviction of its utility and importance. On subjects which can be decided by observations and experience alone, we forbear to make any further reflections; but we earnestly hope, that the subject started by Mr Watt will neither be overlooked nor neglected.

III.

Anthropologia; or Dissertations on the Form and Colour of Man, with incidental remarks. By T. Jarrold, M. D. 4to. London, 1808.

This is a collection of dissertations, somewhat spun out, and not always written in very elegant language, on various subjects, relating to the natural history of man, which, in the author's apprehension, are nearly related to medicine, and essential to the promotion of a knowledge of the animal economy. He acknowledges, that they will be found imperfect, and, in some instances, incorrect; yet they were promised to the public in the preface to a former work, and the object is sufficiently good to cover a multitude of faults; being, as Dr Jarrold states, "a desire to remove every unwarranted prejudice against the person of the negro, and to call the attention of parents to those means by which the beauty and strength of their offspring may be improved."

The subject of the first four sections is the gradation of created beings, and an inquiry into the relation which the different parts of the world bear to each other. Here the author is very much shocked at the degrading doctrine of supposing any scale of existence: he flatly contradicts the notion of a chain, because, he says, a chain supposes a connexion and resemblance; but he can discover no links between man and the brutes, or between plants and minerals; and he gravely assures us, that no animal in the creation corresponds to a forest-tree. He is an advocate for the distinction between instinct and reason, and his principal argument is, that man is actuated by the one, whilst animals are directed by the other; and he considers the elephant as not more rational than a caterpillar; he acknowledges, however, "that each kingdom of nature forms a part of a whole, but not of the nature of a chain." p. 48. The reasoning adduced is not very conclusive, and the admission of an intimate connection between the different tribes of organized beings, reduces the dispute to a mere quibble about the interpretation of a word. If we understand, by the term *gradation*, a series of beings distinguished by different propensities and habits, endowed with predispositions for certain actions, when certain sensations exist; placed in different circumstances, which call forth the powers of their variously constructed organs; and all obeying the same laws, which are stamped upon them by the same divine hand, there is a gradation in every thing around us. What is there mean and low in the idea? It is quite the contrary; it inspires the most sublime emotions.

In proportion as the senses are multiplied in an animal, the greater number of sensations and more various impressions it experiences, consequently, the association of ideas becomes more extensive. Hence the powers of instinct develope themselves, in such an astonishing manner, in some animals, whilst they are kept in a domesticated state. A single organ may be so constructed, that it is alone sufficient to give to the animal a higher place; that is to say, it approximates him nearer to man, in the number and association of ideas. The trunk of the elephant affords a good example. To this instrument alone the elephant owes his superiority over all other animals, (and most men would call an elephant superior to a caterpillar,) and it is in consequence of this wonderful organ, that he seems to hold the middle place between man and brutes. Man is indebted for his superiority over all the creation to the use of language, to the more exquisite powers of his sense of touch, and to some peculiarities in the external circumstances in which he is placed.

The account of the gradation of organized bodies is introduced by an examination of Mr White's publication upon the same subject, in which was advanced an hypothesis respecting the comparative length of the arm and fore-arm of the negro; and some facts were stated, to trace a gradation from European men to the tribe of monkies. Dr Jarrold successfully refutes that theory; and his deductions from the whole of his inquiries are, that no distinction can be made between the mental and corporeal endowments of negroes and white men; allowing the general fact of the superior length of the African's arms to be established, and some admeasurements of arms by Dr Jarrold confirm Mr White's assertion, yet there are also differences observed among Europeans, to which we alluded in our account of *Portal's* work, in the third volume of this Journal. The perfection of symmetry, to which the Grecian statuary aspired, is sufficiently honourable to the African; and our author has proved, by accurately measuring the celebrated statues, that when dignity and strength was represented, as in the Appollo Belvidere, the arm is lengthened even beyond that of the negro; and when the idea of a mean degraded character, as that of the fawn, was designed to be represented, the arms are made very short.

In the 5th section, he inquires whether the human race is of one species; and he determines, that all who bear the name of man had the same origin, possess the same faculties, and aim at the same object; that the first negroes were two-footed, and their common parent was no monkey. The most interesting part of this subject is the remarkable difference between the inhabitants of the four known parts of the globe, and it involves a curious question, how these varieties were produced? But Dr Jarrold does not discuss, at any length, this part of his subject, though he might have detailed what Blumenbach, Moscati, Smith, and Soemmering, have said, with considerable advantage to his work. If it be asked, whence come the Africans? no one, but a blind man, would doubt, at first sight, that they are of a different offspring from the whites, and no degradation is implied in the supposition. For, why should not that Providence, which has placed men in Lapland, have created them also in Africa, under the northern as well as under the southern pole, as trees are placed, and vegetables made to grow, in Siberia and in Asia, on the tops of mountains, and in the hottest vallies?

Towards the conclusion of these dissertations, the author enters more at length upon some inquiries concerning the colour of the skin, and of the cause of the varieties, observed not only among men, but in birds and vegetables. The variety of colours, which so much distinguish birds, is produced, according to Dr Jarrold's opinion, by the oil uniting with the colouring principle lodged in the feathers; but we are not informed how the colouring principle and the oil are produced, or how they act upon each other. The rays of the sun are said to produce the black colour of the skin in man, by means of moisture, which, our author apprehends, acts like a *mordant* to impress the sun's influence, as in the process of dyeing.

> "In what other way (he says) can it be accounted for that a face which is frequently washed, or on which a little dew has fallen, is much more readily tanned than if no such circumstance had happened? A miller's face is never much tanned, though he frequently exposes himself

to the sun, at the door or the windows of the building; because the air of the mill is so overcharged with small particles of flour, that his skin is perpetually receiving a covering of it, which at once dries up the moisture which may fall upon it, and wholly interrupts the operation of the sunbeams.

"But the most decisive proof of the effects of moisture, as a principal agent in giving colour to the skin, is a fog!"—page 189.

The superficial tanning of the skin, acquired in our summer, is lost again in the winter, but freckles are more permanent; and our author asserts, that freckles have their seat precisely in the same place as the colour of the negro; they are affected by the same circumstances, and obey the same laws; in short, the colour of the African may be called *one entire freckle*.—p. 191.

One of the dissertations is entitled "*Of the direct Cause of the Colour of the Skin*," and this direct cause is alleged to be *iron*.

"Iron (says D. J.) is the great colouring matter of nature; it pervades all substances, animals, vegetables, and man, and imparts properties to each. . . . It is capable of being constituted by an animal process. For if an animal be not allowed to eat of any substance which contains this metal, by its being first extracted from the food allowed for its use, still its body will abound with it." p. 206.

"A professor at one of the universities, whose name I have not the liberty to mention, fed some chickens, from the time of their being hatched, on corn, part of which had been analysed, and the iron it possessed accurately ascertained. After living a length of time on this food, the chickens were killed and analysed, and the iron obtained from them was more than had been contained in the corn they had eaten." p. 207.

Again—

"Iron does not invariably, and under all circumstances, communicate redness; . . . but it communicates it to animal jelly, it communicates it to the serum of the blood, which is an animal jelly." ibid.

For the first of these facts, no authority is adduced, and as it involves many impossibilities and sources of error, it is not worth contending about;—but for the second, the high authority of Dr Thomson of Edinburgh is quoted, who is said to exhibit it in his lecture-room. Black is a colour as proper to iron as red: and as the analysis of hair, of blood, of eyes, affords the same result as to iron, our author concludes, since there is no other colouring agent we are acquainted with, one and the same cause produces the colour of the whole body. Various objections to this hypothesis suggest themselves, but in the mind of our author there is no difficulty in explaining why Europeans do not become black in Africa. He maintains, without any fear of refutation, that the perfection of the human colour is the negro blackness, and the never-to-be-omitted opinion of John Hunter is adduced to declare that the original colour of man was black.

By the same kind of chemical reasoning, is the origin of bone explained in another part of this volume. "Marine animals derive their lime from sea-water, by an animal process; magnesia is contained in sea-water, and though it is not coral or marble, yet it comes the nearest to these substances of any thing we are able to extract from the ocean; and it is evident that the universal use of sea-salt is to supply the osseous part of our system." p. 75. Admitting all that Dr Jarrold has said, he does not explain, but presuppose phenomena; and whatever pleasure he might have had in discussing the subjects of which he treats, with the Professor of Anatomy at Edinburgh, as he expresses in his dedication, his readers probably would derive more instruction and amusement from his lucubrations, if he made a more suitable choice of subjects for his abilities, and bestowéd more attention in collecting facts and in improving his style, before he published them to the world.

IV.

Rapports de l'Air avec les Etres Organisés, ou Traités de l'Action du Poumon, et de la Peau des Animaux, sur l'Air, comme de celle des Plantes sur ce Fluide. Tirés des Journaux d'Observations et d'Expériences de LAZARE SPALLANZANI, *avec quelques Mémoires de l'Editeur sur ces Matières.* Par JEAN SENEBIER. 3 Tomes, 8vo. à Genéve, 1807.

SENEBIER has resumed the subject of respiration on which he lately addressed the public, by presenting some memoirs of his friend Spallanzani, and, in addition to what has already appeared in print, he has here given a vast collection of experiments upon a great variety of topics. The manuscripts from which these three volumes are selected, contain a record of between eleven and twelve thousand experiments, and the learned editor is entitled to our thanks for the diligence and zeal with which his friendship has prompted him to execute the laborious task of sarculation.

Spallanzani was engaged, for three years before his death, in an extensive experimental inquiry into the function of respiration; and he had made such progress in it, that in a letter addressed to

Senebier, which is published in a former work, he has given a general abstract of his whole plan, besides a number of interesting observations, the results of particular parts of his inquiries. The principal objects of his researches were, 1st, The respiration of the six classes of animals, beginning with the lowest, and proceeding in succession to the highest, or mammalia, in which man is included.

2. The respiration of those animals which become torpid from the action of cold.

3. The chemical changes produced on the air by the skin of those animals which are destitute of lungs.

4. The changes produced by dead animal matter on air in which it is confined.

In prosecution of this plan, several memoirs were completed, although three only have been published by Senebier, after the death of the author. The subjects of those were on the respiration of the terrestrial testacea, of slugs, and of the aquatic testacea. Vauquelin had already proved that snails produce the same changes in the air in which they are confined as the larger animals effect by their respiration; and Spallanzani confirmed all those conclusions by his own experiments, except one, which referred to the power that snails were supposed to possess, of abstracting completely the whole of the oxygen from a given portion of atmospheric air. Spallanzani found, that a minute quantity of oxygen gas was still remaining, and that this happened, whether he operated upon one snail only, or upon a greater number of them in the same vessel; and he found also, that in every instance, a portion of azote is absorbed. The eudiometer which he employed in his experiments was that invented by Giobert, in which the combustion of phosphorus serves to indicate the quantity of oxygen in the residual air: the carbonic acid was removed by lime water, and the process conducted over mercury. One of the subjects which occupied his attention, was the interesting question, whether the decomposition of oxygen in animals which respire, is exclusively performed by the lungs, or whether it is not assisted by the action of the surface of the body. He performed his experiments upon a class of insects which are not furnished with stigmata, upon fishes, and upon serpents; and he contrived, that the part of their bodies through which they breathe, should be kept out of the vessel which contained the remainder of the body; and the result was, that the air became deoxygenated, although in a less degree than when the organs of respiration were permitted to act in the same vessel. Oviparous quadrupeds have the power of sustaining life for some time after the lungs are removed from the body. Spallanzani took advantage of this circumstance to compare the effect produced by the action of the lungs with that of the remaining parts of the body; and he found, to his great astonishment, that the consumption of oxygen gas by the lungs is extremely small in comparison with that which is absorbed by the external surface of their bodies. From observing the remarkable changes produced on the atmospheric air by dead snails, he was led to examine the phenomena of living animals, and, by an unaccountable oversight, he applies the observations which he made in one ca[illegible]o explain the actions in the other. The results of his experiments were, the disappearance of a portion of oxygen, and the production of carbonic acid, and a little azotic gas. But these effects were the consequence of putrefaction, which he never seems to have suspected, although he mentions in different places, that the putrefactive process had actually commenced; and, in some instances, the experiments were continued until the bodies of the animals had, in a great degree, lost their form and organization. The effect of the putrefaction of animal substances, in destroying a portion of the oxygen of atmospherical air, and giving rise to the formation of carbonic acid, was among the earliest of Dr Priestley's discoveries, and has since been often noticed by other philosophers. The production of azote has not been so distinctly ascertained; and notwithstanding the repeated assertions of Spallanzani, there is still only the same grounds of suspicion as before, because he does not mention the formation of ammonia or of hydrogen gas, which has been observed to take place by those philosophers who have attended to the phenomena of putrefaction with peculiar accuracy. These changes which occur in the putrefactive process of animal substances are owing to moisture, which sets the elementary principles into motion, and disposes them to form new compounds. Animal and vegetable substances kept perfectly dry, remain in the same undecomposed state for many years, as for example, the wheel-animals, vorticella rotatoria, mentioned by Spallanzani, Needham, and others, and different kinds of seeds, which may be preserved for almost an indefinite period of time. No oxygen is absorbed, no carbonic acid given out, no change takes place in a muscle, whilst it remains in a sound and recent state; but as soon as any visible decomposition begins, a part of the oxgen unites with the hydrogen to form water; another part unites with the carbon to form carbonic acid, and thus new affinities take place. In all these changes, however, there is nothing to excite surprise; and there is still less occasion for an author like Spallanzani to congratulate himself, as he repeatedly has done, upon the importance of discoveries, which he supposed would open a path to many hitherto concealed truths.

Our author, in the introduction to his memoirs before published, entered into some speculations on the question, whether the carbonic acid produced in ordinary respiration, is formed by the union of the carbon in the body, with the oxygen of the surrounding air, or whether the carbonic acid is not emitted ready formed from the animal, at the same time that a quantity of oxygen is absorbed? He concludes the latter to be the case, and endeavours to strengthen his opinion by the authority of Lavoisier, who conceived that carbonic acid is disengaged in the process of digestion, which is afterwards thrown out of the system.

Almost every description of animated beings have been made the subjects of Spallanzani's experiments: he has examined in these volumes, the function of respiration in worms, insects, fishes, serpents, tortoises, lizards, frogs, salamanders, birds, bats, marmots, dormice, hedgehogs, and man. The first memoir of this work is denominated the fourth, and treats of the respiration of the earth-worm. The results are the same as in the preceding experiments upon snails, viz. oxygen was absorbed, carbonic acid given out, and sometimes azotic gas; and the same changes took place after death as during life. Memoir 5th, on the respiration of insects, contains a number of curious facts: Caterpillars which ate and moved about, were found to consume more oxygen than when they remained still and fasted: when about to become a chrysalis, they consume less oxygen than at any other time: they change from the state of a chrysalis to that of a butterfly, at temperature 55° Fahrenheit; and the artificial heat of a stove does not much accelerate this process at the beginning of winter: they perish immediately in nitrous gas; but in hydrogen, and azotic gas, their animation is suspended, yet they do not die instantly; when confined in hydrogen and azotic gas, they produce carbonic acid; and they absorb almost as much oxygen after they are dead, as they do when they are living. The power of digestion, and the degree of temperature, is intimately connected with the respiration in caterpillars. At the freezing point they cease to respire; at 36°, they consume only one-fourth part of the oxygen which they would at a higher temperature: at 46°, they cease to eat; they become motionless; and whilst the thermometer is so low during the night, or even higher in the day-time, they no longer undergo their usual transformations. Caterpillars, in their ordinary state, absorb almost as much oxygen in a given time as a frog; and butterflies absorb more than caterpillars, and even more than frogs.

The severe winter of 1795, gave occasion to various experiments upon bees, chiefly relating to their temperature and their torpidity: the heat of a hive of bees is always higher than that of the atmosphere, especially in severe winters: bees become torpid at 50°; when they are exposed to cold below the freezing point, for several hours, they cannot be restored to life again. Bees, wasps, flies, and grasshoppers are liable to endure a state of asphyxia, into which they may be thrown, by being confined under water, or in irrespirable gases, and recover again on exposure to the air, and a proper temperature.

Fish do not decompose water by their gills; because, if that were the case, they would not perish so soon in water deprived of air, as they have the same quantity to decompose; and, besides, hydrogen would be produced, which does not happen. They live longer in common water than in distilled, or in water that has been boiled; and they live longer in boiled water which communicates with the air, than when such communication is excluded. Tench lose some of their vivacity on being exposed to cold, but they do not become torpid; in winter they are found at the bottom, and on the banks of rivers; but never in a torpid state as frogs are. Their swimming-bladder does not contain hydrogen.

The seventh memoir treats of the respiration of serpents, and it contains some curious particulars respecting their natural history. Serpents hide themselves during winter in ditches and places where they can procure frogs for their food, as they certainly devour frogs shut up with them. In the month of March, the bushes are set on fire and burnt; and as the heat is communicated to the ground, snakes and serpents are seen to creep out of their holes, being roused from their torpor by the influence of the fire. The temperature of a serpent is the same as that of the atmosphere, when the thermometer stands at 38°: the action of their heart ceases at the freezing points; and, during winter, they become torpid, and the circulation is wholly suspended: they defend themselves from the effects of cold by retreating into holes, more or less deep, according to the degrees of cold under ground, in the same manner as frogs and salamanders, and the rest of the amphibia preserve themselves. Many experiments on snakes and vipers are detailed to prove that they die sooner than frogs, when confined under water, and cannot so long retain their vitality after being mutilated.

A sparrow bitten by a viper in its torpid state, by forcing one of the venomous teeth into a part of the bird's body, died in seven minutes, which shows that the poison is equally fatal, notwithstanding the animal is benumbed by cold. Redi made the same observation long ago.

The conclusions drawn from experiments made upon tortoises are the following: These animals absorb all the oxygen of the air in which they are confined, and yet they can live some time without any supply. Atmospheric air may be retained for some time in their lungs without undergoing any sensible alteration; for on plunging a tortoise under water, it expired each time two globules of air, which was collected and examined by an eudiometer, and found to be the same as that inspired. Frogs and salamanders have the same faculty of retaining air in their lungs, which is very slowly decomposed; hence we may explain how these animals can live so long under water without being destroyed. A tortoise remained confined in hydrogen gas seventy-two hours without being killed; and another was kept for eighty-nine hours under water, at temperature 56°, in the spring, and was restored to life on being released. These animals, however, do not become perfectly torpid in their natural state during winter.

The ninth and tenth memoirs, which conclude the first volume of this valuable work, contain observations upon lizards, salamanders, and frogs, principally relating to their hybernation, and to their habitudes of life. None of these animals become completely torpid in the winter, yet the temperature of their bodies and their respiration is so intimately connected with the temperature in which they are placed, that they vary with all its variations. We shall give, upon another occasion, an abstract of the experiments upon the subject of torpidity, when we come to consider that part of these memoirs which treats more fully upon that head, and, in the mean time, proceed to the examination of the second volume.

In pursuance of his plan of beginning with the lowest class of animals, and proceeding to those whose structure is more complicated, Spallanzani examines the respiration in birds and in man, but his observations reveal nothing new, and nothing interesting. On the subject of bats, he is evidently more at home; and he describes the wonderful peculiarities of this tribe of animals, with all the energy and force of his own enterprising genius. He seems always to have devoted his attention to these singular animals; for Senebier informs us, that he left unfinished the prospectus and the introduction to a work exclusively confined to this subject, which the learned editor hopes to find among his friend's papers, and to publish at some future time. Bats are justly classed by naturalists among quadrupeds: they have the essential characters, both in their internal structure, in their teeth, in their organs of generation, in their natural habitudes; they copulate like other quadrupeds; they bring forth young, and nourish them with milk, as quadrupeds do. But in the great scheme of the Creator, these quadrupeds were not destined to remain chained to the earth; they were to rival the birds, and to feed, like the swallows, upon insects flying in the air.

Bats are gregarious animals; they like to assemble in groups of the same species, apparently for the sake of the warmth which their bodies collected together can mutually afford: they hang with their heads downwards, suspended from the ceiling by their hinder legs; even the young ones, before they can fly, endeavour to fix themselves in this manner, which marks a peculiar organization and instinctive habit, because this posture would be fatal to a multitude of other animals, especially to man and quadrupeds. They are nocturnal animals, they make no use of their eyes by day, their organ of hearing serves to direct them in their flight; they endeavour to escape from confinement at night, although kept in equal darkness during the day, it is not therefore darkness alone which urges them to fly abroad, but some change in the atmosphere, probably the moisture of the evening air. They do not live upon flies, as their stomachs were filled with scales and horny substances of a dark brown colour, the parts of insects whose nature could not be precisely ascertained. Naturalists have generally thought that bats never migrate, but conceal themselves in holes and caverns during winter: some species certainly do migrate, others do not; not one of the vespertitio murinus could be found in the neighbourhood of Pavia; they disappear in the month of September, and return again in the spring, when the thermometer is even lower than when they disappear. The internal heat of bats in the summer is 101°, whilst they are in full health; this however varies with every change of temperature in the atmosphere, and as the action of the vital functions decreases, the heat is reduced. They become torpid at 44°, yet they always preserve their own temperature somewhat higher than the medium in which they are placed; and what is singular, they revive from their state of torpor when exposed to the open air, although the temperature is below freezing point, and considerably lower than that which suspended their respiration: this effect is supposed to be owing to the influence of the air upon their sensations. The quantity of blood is very small in these animals; Spallanzani wished to expose some to congelation, but he could only procure two or three drops, which were frozen at temperature, 22° at the end of eleven minutes: since it does not become congealed in the animal, at the same temperature, it must be indebted for its preservation to the production of heat, and perhaps to some degree of motion in the vessels of the living body. With regard to the chemical changes which they produce upon air, Spallanzani asserts, that they absorb oxygen and give out carbonic acid, and sometimes azote; and the food which they live upon, is supposed to furnish a great quantity of carbonic acid. Moreover, they perish immediately in azotic, carbonic acid, and hydrogen gases; their lungs have a direct influence upon the air which is inspired; and after death, their bodies, as well as fragments of them, absorb oxygen and azote, and give out carbonic acid and hydrogen. Two other facts belonging to their history may be stated: the number of females is much greater than that of males amongst them, and their flesh is delicious eating, although it has rather an unpleasant smell, yet our author thinks it will one day be considered as game, and be in great request.

The effects of cold upon bats are confirmed by similar experiments made upon marmots, dormice, and hedgehogs, which point out one great exception to the otherwise universal law of the absorption of oxygen and the production of carbonic acid by animal bodies; for the action of the lungs along with that of the heart and stomach is suspended during the torpid state: they do not die when placed in unrespirable gases, nor do they change atmospherical air. Spallánzani's observations on this subject are dispersed through various parts of these volumes, but the editor has collected together the principal facts, and given a summary view of them in a separate memoir. Our task of reviewing that part of the collection which is one of the most interesting, may be postponed for the present, as we understand, whilst writing this article, that we shall soon have an opportunity of considering it in detail, in consequence of a little publication which is preparing upon the hybernation of animals.

The next subject which arrests our attention, is a short memoir, entitled, "Physico-chemical researches on the destruction of air by animals unprovided with respiratory organs, when subjected to experiments relating wholly to the surface of their bodies, independent of all pulmonary action." This little essay, and what follows, only contain a recapitulation of all the circumstances attending the absorption of oxygen by the skin and integuments; we shall translate the most material conclusions, which our author seems to have prided himself very much on discovering.

"1. In beginning with worms, and rising up to man, there is no species of animal which does not destroy the oxygen of the atmosphere after ceived opinion, which rests upon very high authority, and so many well ascertained facts, is right.

To speak in general terms of these memoirs, we may observe, that their leading feature is variety. The author appears to be impressed with the idea of making more experiments than anybody else; and the editor seems to admire the fertility of his friend's imagination in devising experiments, where the matter-of-fact man would think his time and labour misspent, because they lead to no satisfactory conclusion. Novelty presents itself occasionally to the view, but not so frequently as the author himself imagines; for he seems to have read no works upon respiration, except his own. His observations upon the torpidity of animals, are new and valuable; and the remarks upon the natural history of different animals, are exceedingly interesting. Some allowance will be made for the occasional inconsistencies, and frequent want of perspicuity, which may be observed in this work, as these must be ascribed to the circumstance of its being posthumous; and whilst we lament the cause of its deficiencies, we must acknowledge our gratitude to the editor, for enabling us to read the last labours of Spallanzani.

V.

An Exposition of the Practice of Affusing Cold Water on the Surface of the Body, as a Remedy of Fever: to which are added, Remarks on the Effects of Cold Drink, and of Gestation in the Open Air in certain Conditions of that Disease. By ROBERT JACKSON, M.D. 8vo. Pp. 429. Edinburgh, 1808. Murray, London.

THIS work owes its origin, as we are informed in the preface, to an observation of the late Dr Currie, (which was repeated in stronger terms by the editor of the Edinburgh Review), who insinuated that some want of candour had been evinced by our author, in describing his practice of *cold affusion*; inasmuch as he had omitted to mention the name of Dr Wright, who, those writers conceive, was the original source from which the modern adoption of that practice was deduced. Such an insinuation appears to be unfair, and Dr Jackson has, in our opinion, shewn it to be ill-founded. It is admitted, indeed, on all sides, that the records of medicine contain an ample store of facts and hints, from which a sagacious physician might have been led to the practice of external refrigeration in fever. Among the ancients it was freely employed, and it is pointedly recommended in the writings of Hippocrates, Celsus, Galen, and others. The prejudices, which were raised upon modern hypotheses, had indeed shaken, for a time, the credit of antient experience, and perverted all just observation: yet accidental occurrences, and the occasional boldness of individual observers, had, at different times, demonstrated the safety and utility of the refrigerating practice, under various but undefined circumstances. Many instances in which persons, in the delirium of fever, had plunged into water, and been restored, or much benefited by the ducking, are on record; and it was to the relation of one of these facts, by an eye-witness, that Dr Jackson acknowledges himself indebted for the hint. De Haen employed *cold affusion*, in the year 1737, to a considerable extent, as Dr Currie has shewn: and the same expedient has been mentioned by travellers, as employed in different countries, with distinguished success: as in Abyssinia, by Bruce; and in Egypt, by Savary; both of whom are quoted by Dr Currie.

Had this question of priority, however, been the sole point of discussion in this volume, we should scarcely have deemed it necessary to introduce the controversy to our readers. The principal object worthy of inquiry, relative to the application of cold in fever, is the condition of the individual, which renders the practice salutary and safe. The late ingenious Dr Currie had pursued this object in the true spirit of philosophical inquiry; and we have been accustomed to consider that he had arrived, by induction, at a conclusion as satisfactory, as is any axiom in the science of medicine. Dr Jackson, however, controverts the principles of Dr Currie's doctrine, which he allows to be so simple and clear, as to be adapted even to popular apprehension; and he labours to substitue a doctrine of his own, which he acknowledges to be obscure and difficult to be understood. After a most attentive perusal of the volume, such as our wish for accurate information on this important topic suggested, and the respectable character of the author claimed, we must declare our fullest assent to the latter, as well as to the former of these observations. Dr C.'s doctrine is truly perspicuous; Dr J.'s most truly obscure. The reader shall have an opportunity of judging for himself.

Dr. J. states that the fundamental and indispensable condition which warrants the safety and insures the success of the cold affusion on the surface, is held by Dr Currie to be increased heat or high temperature, the reduction of which dissolves the febrile association, and thereby cures the disease. But he adds,

> "The ground on which I act is different. The fundamental condition on which I rest is by no means so obvious, or capable of being so precisely measured by the help of an instrument as that assumed in the medical reports; but it is a general condition, capable of improvement, almost of creation. It in fact consists, or is supposed to consist in a condition necessary to animal life, viz. *susceptibility of impression.* The subject, as susceptible, is more or less readily disposed to be acted upon, and, according to relative condition, more or less capable of assuming a new form of action with the application of a new power of stimulation, whatever be his temperature. As susceptibilities are different in degree and different in kind, it is evident that, to judge the degree or kind, requires in all cases the exercise of judgment. If the judgment formed on this head be wrong, we cannot expect the practical effect to be right; for just effect follows, on every occasion, a just estimate of the power of the agent and capacity of the subject acted upon. Hence I conclude that, as susceptibility of impression is variously acted upon by a febrile cause; and, as cold water is only of a given force, the first practical step of the physician must be necessarily directed to the means of bringing susceptibility to a common level, so that the remedy may act with due impression throughout. This is my ground;" &c. p. 55.

This is the sum of Dr J.'s doctrine; if a jumble of words, like this, can have any claim to be so called: and although it is repeated and exemplified, again and again, throughout the work, the reader is left in the same obscurity in the end, which envelopes him in the beginning. For of this *susceptibility of impression* neither definition nor description is any where to be found; not one sympton or appearance indicating either its presence or its absence, its increase or diminution, is mentioned. The author found it in this case, and prepared it in that; but by what signs it is to be recognized, he is unable to inform us: and he talks about "febrile action," "new action," "altered action," in the same general, indefinite, and therefore unintelligible terms. But let us examine minutely the contents of the preceding *exposition* of his doctrine.

The author commences by stating (as if to commend) the obscurity of the principles, in comparison with that of Dr Currie. He then informs us, that the fundamental condition, which insures the success and safety of cold affusions, is, susceptibility of *impression* "a condition *necessary* to animal life;" or, as he writes in another place, "a condition which is connected with the *expression of life* through the whole organic system," p. 315. Physiology teaches us, that the leading characteristic of life, is the capacity of being acted upon by stimuli, *i. e.* agents, which do not communicate momentum, as in mechanical, nor alter structure as in chemical action. This capacity is the *excitability* of the Brunonians; and the sensorial power of Darwin; in whose more useful philosophy, the faculty of receiving impressions is considered as twofold, viz. the *irritable* and the *sensible* powers. If Dr J.'s "susceptibility of impression" have any precise meaning, it is obvious that it is synonymous with these phrases, and signifies *life*; or, which is the same thing, those phenomena of life by which its existence is principally manifested. Surely, then, we acquire no new information, when we are informed, that these properties of life constitute the condition necessary to ensure the success of cold affusion; because their existence is necessary to the action of all remedies whatever: in other words, the patient, whom we propose to cure, *must not be dead*.

We affirm, that we have not the most distant design to pervert the meaning of our author. It may be, that the expression above analyzed, and upon the meaning of which the whole of his doctrines rest, is connected in his mind with some particular *idea*; but it must be, that his conception is altogether indistinct; otherwise words would easily be found, by which the idea might be communicated to others. The rest of the paragraph will not detain us. Passing by the profound *truism*, that, in these matters, "to judge requires the exercise of judgment," we shall merely note the inaccuracy of the statement, that *cold water*, as an agent on the susceptibilities, "is only of a *given* force;" and that, therefore, the first step in practice is to bring up the living power to a level with this *given*, but *indefinite force* of the agent. We dare aver, that, more generally, the contrary is the fact; and the subsequent details of the author's practice may be adduced in our support. Surely the impressions produced by cold water are various in degree, both according to the *quantity* and *momentum* of the affusion, and to the *degree* of the cold. The "force" of the affusion of successive buckets, of the shower-bath, of simple aspersion, or gentle sponging, is decidedly very different; and the impression from ice-cold water, from spring-water at its medium temperature, and from tepid water, must necessarily vary in point of "force." The force of the agent then, *can* be brought to the level of the existing susceptibility, or condition of the vital powers: nay, farther, it is actually recommended to be so varied by the author himself, and by Dr Currie, and is so varied by every rational practitioner.

Dr Jackson criticizes, with considerable acuteness, the theory of fever, which Dr Currie adopted, and professes "to confine *his* view to a humbler sphere," and to "assume the office of a mere observer." p. 123-4. We wish, indeed, that he had confined his views to this, not humble, but difficult and most important task of rigid observation; in comparison with the utility of which, all the labours of the schools of disputation, misnamed philosophy, sink into worse than insignificance. We were not a little surprised, therefore, after such criticisim and such a profession, and after perusing this sentence, pronounced against Dr C.'s doctrine of *debility*; "it possesses no precise definition; and, thus undefined, the fabric erected upon it cannot be consistent, sure, and permanent," p. 99.—we were not a little surprised when we read the author's most unaccountable attempt to *define* his notion of fever. He says,

> "The disease termed fever, the cure of which forms the subject of this exposition, presents a change in the condition of organic action through the whole extent of the system,—differently proportioned, however, in each organ according to a number of varying conditions. This *action*, whether accelerated or retarded in time, increased or diminished in force, is changed in manner, perverted in some *shape* or other from its customary *form* and tenor, and *moulded* into a new *figure*, which has its own law of proceeding, and which produces its own effect, which is an effect subversive of health and sometimes destructive of life." p. 131.

Such is the nature of fever! And hence the following *obvious* inference as to the indications of cure.

> "As it is evident to the simplest understanding," the author continues, "that organic action is not, and cannot be produced without an impulse of direct stimulation, or change of condition in subject which amounts to stimulation; so, it is equally clear, and supported on similar grounds, that no action, or circle of actions, when moved into this artificial train, and maintained in it in the manner implied, can be supposed to be checked or controuled in the vigour of its course, without an act of impression from a cause of a new and contrary nature to that which moved it originally, and which still continues to support it. And farther, as the power of the cause which moves the act, must in all cases, be proportionate to the needs of the occasion, it presents itself as an obvious inference from the supposition, that the leading indication for the cure of fever must necessarily consist in the adjustment and application of a remedy of a stronger power of impression than that of the morbid cause; and which, while stronger in power, is at the same time so constituted in its nature, that while it acts by arresting the cause of the disturbed and perverted movement in which the disease consists, it may also, by a mode of impression connected with its properties, move the parts into such particular form of contact as to favour the commencement of actions analagous to those which obtain in health: at least, it may be supposed to produce, in consequence of the arrest alluded to, such a state of balance in the conditions of the subject, that the powers which stimulate action in its healthy forms, and which maintain it in vigour in ordinary circumstances, may be so presented and so received in the case in question as to exert their force without impediment, *and without hindrance*; consequently, may be so directed as to restore the customary train of action in all its extent, and to support it in all its parts in vigour. As it is evident that, when the condition

tion of the subject and the power of the agent are justly balanced, the movements are regular, and such as are deemed healthy; so, when these are changed, or not duly poised, irregularity arsies, and disease is the consequence. If this position be admitted, it follows in consequence that the first step in instituting the plan of cure must be directed to restore that equipoise, or just susceptibility of impression, which appears to be overturned or absorbed in the existence of a foreign action." p. 132.

Here is Brown *out-bruno'd* truly!—the limits of *sthenia* and *asthenia* are spurned; and the art of medicine generalized into the adjustment of *a balance*;—but it is the balance of the powers of the animal economy, with all the agents that are capable of influencing it! Happy discovery! which will serve to explain every disease in the catalogue of the nosologist, and to indicate every method of cure. 'Adjust the balance of the susceptibility of the system, and the power of the morbid stimulus, and you will certainly cure your patient.' This is the practical essence of the intricate and mysterious passage which we have just quoted; and the whole, when translated into still more simple language, contains this piece of instruction, and nothing more. 'Where the movements of the animal frame go on irregularly, it is obvious there is disease; the first step of the practitioner, therefore, is, to remove the cause of these irregular movements;' that is, the *proximate cause* of the symptoms; in other words, the disease itself! Dr Jackson, however, is not the first medical theorist, who has mistaken words for things; or has so enveloped a simple self-evident fact in a disguise of words, that he no longer recognized its import, but fancied he had discovered an explanation of its *cause*.

In the statement of his practice Dr Jackson involves his details in similar obscurity, by his most unaccountable misuse of language. He has an utter aversion to the simple signification of words; and metaphor, however inapplicable, interrupted or broken, is his delight; a proof at once of erroneous judgment, and corrupted taste, which, in a didactic essay, is extremely reprehensible.

In the essential part of his practice, it appears to us that Dr J. differs little from Dr Currie, except in the extent in which he applies it in fever; although he is very anxious to establish the appearance of a complete distinction in the principles of his plan. He repeats most particularly again and again, that increased temperature is not the point on which he rests his judgment, as to the propriety of cold affusion, and even ridicules the use of the thermometer. He applies the practice at the most advanced periods of fever, "if *the fit condition* be present," but acknowledges that his expectation of success is then diminished: and he uses it also, where Dr Currie would not think it necessary, by *preparing* the body for it, when there is no increase of heat. On this topic he exults over the disciples of Dr C.; for when this increase of heat is not present, he says, "the practitioner, who confides in this precept, is le[illegible]t *fault*,—uncertain which way to turn;" forgetting, in his zeal for the support of his new practice, that the practitioner is left in possession of all the other remedies of fever, in common with those who never used cold water at all.

The reader will probably agree with us, that this plan of preparation when the heat of surface is deficient, tends to confirm Dr Currie's principle, and is explicable on no other ground: it consists, in fact, of *producing* the state of cutaneous heat artificially.

"I introduce him (the patient), when cold and torpid (says Dr J.), into an apartment where the air is of a high temperature; I pour warm water upon his surface, or immerse him in a warm bath; I scrub his skin strongly with brushes armed with soap, (and with "hot towels," he says, in another place), "and, having thus rendered the whole body perfectly clean, and increased its susceptibility in consequence of the operations connected with purification and warmth, I affuse the cold water with expectations of increased effect from the circumstances of the condition thus artificially produced." p. 64.

Nay, our author admits, and all his publications (he says) abound with proofs of the fact, that he considers the equal distribution and superficial diffusion of heat, as materially connected with that condition of subject which is ordinarily favourable to the successful action of this remedy" p. 64. It is quite futile, then, to split hairs in the argument; or to state the solitary case of De Haen, (who was subjected to the affusion when the skin was cold and flaccid, and covered with a cold sweat), in refutation of the broad fact. Indeed, he is again compelled to qualify his observation.

"I agree indeed with the author of the Medical Reports, that a cold surface does not present the most favourable condition" (how reluctantly the admission comes forth) "for the application of cold water, and I accordingly institute a process of preparation to obviate that condition; but I maintain, and I believe the reader will assent to my opinion, that, if cold water can be applied to an ice-cold surface not merely without injury, but with benefit, this author's principle is overturned." p. 67.

We cannot assent to this inference. With equal accuracy we might conclude, on seeing a person who had swallowed two ounces of laudanum recover, that laudanum was no poison. Individuals will recover in spite of the most unfavourable occurrences; but, in such cases, they can only be considered as affording exceptions to a general fact.

Whether the principle suggested by Dr Jackson, of exciting a temporary artificial heat, in order to use the powerful operation of cold affusion afterwards, may be productive of *much* benefit, we have yet to learn. Dr J. mentions his success in those general and equivocal terms, in which he deals so largely, without relating one case in illustration, that we are altogether at a loss to discover the comparative advantages of the practice in his own hands. Some of the ancients were of opinion that, by artificially augmenting the febrile thirst, by withholding liquids, and then fully gratifying it in its extreme degree, they contributed to cure the disease. But such a method of treatment is not countenanced by modern experience, which must ultimately determine on this similar principle in regard to the febrile heat.

A considerable portion of this volume consists of descriptions of the leading forms of fever, which the author arranges under two heads, the endemic and the contagious; the former including the yellow fever, and other violent fevers of hot climates; the latter comprehending typhus, in all its varieties of jail, hospital, and ship fever, &c. originating from confined animal effluvia, from the contagious effluvia of febrile patients, and from the contagion of *fomites*. These three sources he considers as producing the forms of fever, in three progressive degrees of severity. In this long detail we meet with several delineations of disease, which evince considerable discrimination and sagacity. But we have still to complain, in every page, of the obscurity of the figurative language, in which many parts of them are depicted; which may be exemplified in the designations of the different forms of endemic. We have "the violent, *masked*, or complicated form;"—"the *tumultuous* and irritated form;"—and "the *stagnated* or gangrenous form." But our business is with the cold affusion.

Dr Jackson differs from Dr Currie, and labours much to impress the difference on his readers, in inculcating the necessity of *preparatory* expedients, in order to ensure the success of the cold affusion. But we doubt whether he has made the comparative experiment so often, as to ascertain the effect of the *unprepared* affusion, especially in the violent form of the endemic fever of the West Indies. In such a fever, he says, "the affusion of cold water of a moderate temperature *probably* refreshes the patient, and affords temporary relief; but it rarely arrests the course of the disease." p. 221. *Probably!*—Is this the language of experience? He then proceeds to state what he has stated many times before, that some more powerful agent must be previously applied "to control, and decidedly to arrest the course of a disease which manifests such domineering force of action," so as to reduce this action to a balance, or "to raise the power of the cold water relatively;"—this, he adds, "is consonant with reason, and it is proved in the experience which I have *occasionally* witnessed, that without such balance in its favour, no decisive or permanent change will be effected in consequence of its application." p. 222. This balance is to be effected by copious blood-letting.

Now, although our author has told us, again and again, that cold affusion is the most powerful agent in the possession of the physician, it is obvious, both from his theory and his practice, that this *more* powerful agent of blood-letting, (seldom carried to a less extent than *thirty* ounces at once, p. 223.) is the chief remedy here, and that the disease is cured by *it*; the cold water being a secondary object, a mere appendix to the method of treatment. He extols the power of blood-letting in suddenly arresting this fever, and even details cases in proof of its efficacy alone, p. 146.; and an observation, at page 150, shews how little the cold water has to do with the cure. "After subtraction of blood to the extent stated, a *scanty sprinkling* with cold water occasions a stronger impression, and is in fact followed by a more complete effect than the affusion of many gallons without the preparation alluded to."

The sum of the information to be derived from this part of the author's treatise is, we conceive, that cold water is not so effectual a remedy in the ardent endemic of tropical climates, as its success in the typhus of this country had led us to anticipate. So far from recommending its administration, his observations tend to characterize it as a frivolous expedient. The experience of some of Dr Currie's correspondents, however, stands in opposition to this statement; and the qualifying words, "probably," and "occasionally," tend to convey a doubt as to the full establishment of it, as a general fact, from an ample evidence.

But if the cold affusion is a comparatively insignificant part of the treatment, in this early stage of ardent fever, in Dr Jackson's plan, it is almost lost in the multiplicity of expedients, which are employed previous to it, and together with it, in the latter stages of what Dr J. calls the stagnant or gangrenous form of fever. In truth, the practice recommended in this state of fever, appears to be so incongruous with what we know of the condition of the animal economy, under such circumstances, that we cannot reconcile with it the author's assertion of its success.

He has a singular notion of attributing the most opposite powers to the same remedy. He tells us, p. 201, that the cold affusion "*moderates* excessive action, and *invigorates* that which is feeble;" and he attributes the same double faculty to blood-letting, which, accordingly, he uses as a preparation in the beginning of ardent fever, and in the latter stages of the *gangrenous*, or *stagnated* form.

> "Where the gangrenous form of action is present, the lancet is considered by most people to be an instrument of destruction; more however, I believe, from theory and prepossession than from observation and just reasoning: for it is true in fact, and it is consistent with the principle which appears to regulate movement in animal mechanism, that the sudden abstraction of blood *should* act *by moving sluggish circulation into brisker motion;* more especially where the vessels are surcharged and partially obstructed, as is the case in *approaching gangrene.* If it be so, and the fact is a very obvious one, bleeding must be considered as a valuable remedy,—the first in order of time, and the highest in importance among those which are employed for laying the basis of cure in a disease which tends to stagnation and gangrene by a direct febrile act. It obviously accelerates the course which is disposed to stagnate," &c. p. 256.

We cannot pretend to attempt, by argument, a refutation of a doctrine so monstrous, so inconsistent with itself, and contradicted by the experience of the whole profession, as well as by the inferences of every physiological observer, respecting the laws of the animal economy. But mark the acuteness with which the danger of such murderous practice is reasoned away.

> "This suggestion, contrary to common opinion as it may be, cannot be supposed to imply *danger in itself* in a case tending *certainly to destruction.*" p. 238.

This is, doubtless, the first time that our readers ever learnt, in the course of their reading or inquiries, that blood-letting was a *stimulant*, tending to "animate the circulation," as Dr J. more than once affirms, and thus to avert the process of gangrene. For more certainly attaining this end, the author observes, however, that "some internal remedies *may* be employed to *contribute aid*, though the cure cannot be solely trusted to them. Among these are to be ranked wine, brisk champaign perhaps in preference to others, bottled porter, cyder, water strongly impregnated with carbonic acid gas by the mouth and by glyster, essence of spruce, yeast, alum, zinc, and camphire, variously combined, and in large quantity; to which ought to be added gestation in the open air in carts and carriages, with frequent aspersion of cold salt water." p. 239. In another place he enumerates the internal remedies, to be thus used;—"let grateful wines,—rhenish, champaign, even brandy, rum," &c. be given internally. And besides these means of rousing the circulation, *in aid of blood-letting*, he recommends friction of "the whole body with a strong pickle of salt, nitre, and vinegar, with lime or lemon juice, and with warm and stimulating oils,—with turpentine, spirits of wine and camphire, &c.;" immersion of the lower extremities in the warm bath, while the blood is flowing;—and, from theory only, he suggests the trial of enveloping "the whole or greater part of the body in a poultice of yeast and oatmeal!"—and the conclusive expedient is the external application of cold water, certainly the most inefficient of the whole farrago, more particularly in the way in which it is employed, namely, by a mere *sprinkling* of the body!

The only comment that we deem it necessary to make upon this practice, relates to the "*affusion*" of cold water. The readers of Dr Currie's work well know the particular mode of using the remedy which that word there expresses, viz. the act of pouring it from buckets, largely, on the patient; by which not only a powerful *shock* is given to the sensations, but the heat is greatly abstracted. Now, both from the words of the title-page, and the frequent use of the term *affusion*, even respecting the gangrenous forms and later periods of fever, and the consideration of all other expedients as but preparatory to this "most powerful agent," we were some time in ascertaining satisfactorily what was the real process of the author. In one place, we are told, that, in the *gangrenous* form of fever, "a remedy of no ordinary force is demanded, and the *affusion* of cold water on the surface, *even* when cooled artificially, and applied *in large quantity*, powerful as it is in impressing a new form of action throughout the organic system, is not to be trusted in the case described, without some previous preparation of condition." And the bleeding in this same gangrenous fever is recommended, "not perhaps as a remedy capable of completely arresting the disease by its own power, but decidedly as a remedy capable of *preparing the condition* under which cold water may be applied to the surface with every expectation of benefit." p. 232. And after speaking of cold "*affusion*" again and again, p. 242, he admits, that if "misapplied" especially to a "person in the *ticklish* circumstances described," it may *kill* the patient. "Aware of this chance of danger, *I adopt aspersion myself*, and I recommend it to others as a practice safer than *affusion*" (obviously understood in Dr Currie's sense) "in the delicate circumstances alluded to," giving, at the same time, wine, or other more powerful cordials. In other parts, greater verbal accuracy is observed, and we are directed "to *sprinkle* the patient with cold water;"—"the *face* and *uncovered parts* of the body are to be *sprinkled* with cold salt water;"—"with water, vinegar, or spirits," &c. pp. 210, 253, &c. and this is recommended to be done, during gestation, in the open air.

It is obvious that *such* an application of cold water, *such* a "cold affusion," is altogether inconsistent with the notions of Dr Currie, and his disciples. We have here neither the shock of cold *affusion*, with its abstraction of heat, nor the simple refrigeration of cold *ablution*; we have merely that more trifling stimulating sensation of *aspersion*, of which the vulgar avail themselves in gently rousing a person, fainting, under ordinary circumstances, and which Dr Currie has satisfactorily discussed in a note, in vol. i. p. 72. 2d edit. If patients do recover from the "ticklish" situation described by Dr J. under the treatment recommended, there can be little doubt, we conceive, that he owes his recovery to the powerful internal cordials, and external stimulants, which make a part of the plan, and that he receives comparatively little benefit from the much vaunted "sprinkling," and none from the preparatory blood-letting, but rather recovers *in spite* of it, than by its aid.

In a word, we have discovered nothing in this "Exposition," which is incompatible with the principles laid down by Dr Currie; principles, which we have ever considered as deduced from an ample series of well-conducted experiments, by a fair and rational induction; and which have been invariably corroborated by our own, and by much other subsequent experience. Indeed we are inclined to believe, that while Dr Jackson has thus *exposed* his own hypothesis, he has rather contributed to support the theory of that much lamented physician. For he admits, with Dr Currie, that in the typhus of this country no preparation for affusion is necessary in the beginning; that the general diffusion of heat is most favourable to its success; and he, therefore, institutes a process of art to produce it, where it does not exist; which must be considered merely as an *extension* of Dr C.'s principle. As to his practice in the violent endemic of the tropics, and in the latter stages of fever; it goes to prove only that blood-letting is a better remedy than the application of cold in the first, and that cold "*affusion*" cannot be employed without danger in the last, but that you may *sprinkle* the patient with safety, if not with advantage.

The discussion of the effects of cold drink in fever, and in the hot and perspiring condition occasioned by violent exercise, is very unsatisfactorily conducted; and the aid of the undefined and undescribed *susceptibility* is chiefly relied on, in the attempted explanations.

With respect to *gestation*, as a remedy in fever, it is stated that many soldiers have been greatly and speedily relieved, by being carried in waggons or boats, exposed to the vicissitudes of the weather, when in different stages of fever. It is mentioned as generally successful, without any discrimination of circumstances; but we feel some difficulty in believing that such an expedient cannot be extremely hurtful, under any degree, stage, or modification of fever.

PART

PART III.

MEDICAL INTELLIGENCE.

Report of Diseases treated at the PUBLIC DISPENSARY, *(near Carey-Street,) London, from August* 31*st to November* 30*th* 1808.

Acute Diseases.

	No. of Cases.		No. of Cases.
Tertiana	2	Pleuritis	2
Quartana,	2	Peripneumonia	6
Typhus	3	Catarrhus	43
Synochus	20	Pertussis	4
Scarlatina anginosa	36	Enteritis	1
Rubeola	4	Peritonitis	2
Variola	5	Cholera	3
Varicella	1	Rheumatismus	3
Urticaria febrilis	2	Arthritis rheumatica	6
Herpes	1	Odontalgia	1
Cynanche tonsillaris	12	Febris infantum	10
———— parotidea	1	Dysenteria	20

Chronic Diseases.

	No. of Cases.		No. of Cases.
Cephalæa	11	Tabes et marasmus	7
Vertigo	1	Hæmorrhois	1
Catarrhus chronicus	20	Tympanites	1
Asthma	3	Ascites	1
Hæmoptysis	5	Hydrothorax	1
Phthisis	15	Anasarca	6
Dyspepsia	11	———— post scarlatinam	5
Gastrodynia	14	Hydrops tot. corporis	6
Pyrosis	2	Asthenia	25
Icterus	5	Chorea	2
Enterodynia	6	Hysteria	5
Colica	1	Epilepsia	2
—— Pictonum	5	Hypochondriasis	1
Constipatio	2	Paralysis	3
Diarrhœa	9	Convulsio	1
Tenesmus	1	Rheumatismus chronicus	24
Verminatio	2	Pleurodyne	3

Chronic Diseases continued.

	No. of Cases.		No. of Cases.
Lumbago	3	Diabetes mellitus	1
Sciatica	1	Dysuria	1
Menorrhagia	9	Nephralgia	5
——— post abortum	2	Psoriasis	3
Leucorrhœa	11	Prurigo	1
Amenorrhœa	9	Porrigo	3
Hysteralgia	2	Impetigo	7
Cancer uteri	2	Ecthyma	1
Prolapsus uteri	1	Phymata	1
Catarrhus vesicæ	1	Erythema	2
Enuresis	1		

The autumnal months have been less temperate, especially September and October, than is usual. The first fortnight in September was chill, with daily rains; and the last was cold, with a few showers. In October there was a considerable prevalence of east winds, with a damp and cloudy atmosphere, and occasional fogs and showers, which gave much of the character of February to that month. In the early part of November several smart frosts occurred, with morning and evening fogs; but the latter part has been more mild in temperature, although moderate rains were frequent.

Catarrhal and rheumatic complaints have been less numerous than we were led to expect, from the general predominance of a cold and moist atmosphere; and the cases have been, on the whole, of a mild nature.

In the month of September, a few cases of typhus were observed at the Dispensary, several were admitted into the House of Recovery, with malignant symptoms, and some severe, and even fatal instances occurred in individuals of respectable rank in life; they were, however, under all circumstances, only sporadic; and since the commencement of October, I have scarcely seen or heard of one example of typhoid fever.

Scarlet fever appears to be almost the only contagious disease, which can be said to be epidemic at present, if we except the *artificial* epidemic of small-pox. The latter disease, although little observed in the practice of the Dispensary, appears, from the bills of mortality, to be exceedingly fatal, to the extent of 40 deaths weekly, or nearly so. This is not the usual season of the epidemic of small-pox*; and, therefore, it is probable that the fatal poison is now disseminated to this lamentable degree, by those advertising gratuitous inoculators, who have taken up the trade of death, which the humanity of the Governors of the Small-pox Hospital had suppressed at St Pancras.

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* See the Report Jan. 1, 1806, No. V. p 124 of this Journal.

The contagion of scarlet fever has been very active; we have seldom seen the disease find its way into a family, without attacking all the younger branches, who were liable to it, and some of the adults. Yet the symptoms have been generally moderate, insomuch that only *one* patient in the above list, a child three years old, died. The combination of a general efflorescence, with a sore throat, has been almost universally observed among the children, but the adults usually had the sore throat only; the throat, in many cases, was tumid, and the tonsils considerably enlarged, of a bright red colour, as if partaking more than usual of the nature of the common inflammatory sore throat, and the ulcerations on the tonsils and edge of the palate were seldom observed to be deep, extensive, or of a dark colour. The strength of the patients was not greatly depressed, so that many were not confined to bed more than the space of one or two days. The application of blisters to the external fauces, in all the cases in which the tonsils were enlarged, was attended with marked advantage. A laxative of calomel and jalap, preceded, when the patient was seen in the commencement, by an emetic, and the use of a gargle acidulated with the muriatic acid, was all the medicinal treatment that appeared to be requisite. The *lavatio frigida* was generally recommended, and employed in different degrees of extent, and with invariable relief to the heat, irritation, and other febrile symptoms: in a few cases I stood over my patients while the skin was washed with cold or tepid water, and witnessed the almost instantaneous diminution of the frequency of the pulse, as well as of the pungent heat of surface, the anxiety of countenance, restlessness, and so forth.

Dysentery has been very prevalent, especially in September and November, as it was also in the spring months. Physicians have differed about the nature of the disease, to which they have applied the term *dysentery*, from the time of Hippocrates to our own. It was applied to all ulcerations and hæmorrhages of the intestines by Hippocrates; and ulcerations were believed to be the origin of the dysenteric symptoms by writers in general, until Willis and Sydenham shewed that the symptoms occurred independently of ulceration*. Dr Cullen considers dysentery as invariably a contagious disorder†, and a specific contagion as the only cause of the disease. This is an extraordinary opinion; for, if we are allowed to consider, with Sydenham [*] and Sir J. Pringle, that, together with some febrile symptoms, "small, but frequent stools, of a slimy and frothy matter, preceded by gripes, and followed by *tenesmus*," constitute dysentery, whether blood is passed or not, such a disease is extremely common in this country, as the result of cold, of unusual irritations of the bowels, &c.; and is very rarely observed to pass by contagion from one individual to another, in ordinary life. But little fever accompanied the dysenteric symptoms, in most of the cases in the list, although in eight of them a considerable quantity of blood was discharged by stool. The gripes, but more particularly the tenesmus, and frequency of stools, were much complained of:—feculent matter made no part of the stools, in general, which were watery, or bloody, with little smell, and contained fragments of apparently coagulated mucus. The appearance of *scybala*, or formed fæces, was generally followed by relief. The commencement of the disease was not often witnessed: in some the complaint was of five or six weeks standing, at the time of application to the Dispensary. Exposure to cold was the cause generally assigned for its origin. The plan of cure consisted of the combination of anodynes and purgatives, as already stated, (Report for July 1808,) in preference to the alternation of them, as recommended by Sydenham. When the bowels have been effectually relieved, after the disease has continued long, Sydenham has observed that, from the irritated state of the rectum, the *tenesmus* often remains severe and troublesome; and he deprecates the use of glysters or other local means of relief, which, he says, is only to be obtained by the restoration of the general strength. But anodyne glysters are often beneficial under those circumstances; and when the introduction of a pipe has excited too great irritation in the rectum, we have seen a speedy and effectual benefit derived from the insertion of a grain of opium, in the form of a pill, within that intestine. Dr Cullen considers dysentery as a disease of fatal tendency; but all the patients in the preceding list recovered; and we have seldom witnessed a fatal termination of the disease, where it was not of long standing before assistance was required.

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* A neat sketch of the medical history of dysentery is given by Sir J. Pringle "On Diseases of the Army."—Part III. chap. 6.

† Nosolog. Method. Gen. XLI. and first lines § MLXXV.

One of the cases of anasarca originated apparently from an unusual cause. The patient was a middle-aged woman, in previous health. She was thrown into a state of extreme fright and alarm, on discovering in the evening that she had lost her little store of money, the savings of several years, and the next morning she was anasarcous from head to foot. By tonics combined with diuretics the disease was speedily removed.

Nov. 30. T. BATEMAN.

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[*] Epidemic. Constit. Sect. IV. Chap. 3.

The President and Council of the Royal Society of London have adjudged the annual gold medal, on the donation of Sir Godfrey Copley, to William Henry, M. D. of Manchester, for his various papers published in the *Philosophical Transactions.*

In the press, and will be published next January, a second edition, with many additions, of Mr Carmichael's Essay on the effects of Carbonate, and other preparations of Iron, upon Cancer, with an inquiry into the nature of that disease.

Extract of a Letter from Mr SIMMONS, *Manchester.*

As you have done me the favour to assert in your review of my little publication, on the subject of lithotomy, &c. which is contained in your 16th Number, Vol. iv. pag. 508, that my observations "are not to be despised;" I am encouraged to hope, that a little explanation on my part, may still further soften the severity of your critical strictures, though perhaps insufficient to conciliate your good report.

I shall leave it to others to determine whether there be any *interest* in my remarks on the operation of lithotomy; but I was certainly under the persuasion, that there was *novelty* in the directions proposed for ascertaining the precise point, where, in all subjects, the commencement of the membranous portion of the urethra might be sought for with confidence and success. And, as an author's meaning is best collected from his own expressions, allow me here to transcribe the passage alluding to it. My words are, (page 17.) "in the erect position of the body, the membranous portion of the urethra lies under the centre of the arch of the pubis, at a little distance below the symphysis, having the bulb situated at its anterior, and the prostate gland at its posterior extremity.

"Making allowance, therefore, for any alteration of the parts from the natural position, occasioned either by the posture of the patient during the operation, or by the projection of the staff in perinæo, and aiming at the urethra on a line with the inner surface of the symphysis pubis, that part of the membranous portion of the urethra, which lies contiguous to the prostate gland, will be penetrated."

On the case of chimney-sweeper's cancer, in which the arsenical solution was administered, you have observed, that "no other benefit than some *temporary* abatement of the pain was derived from its use;" which, however, does not exactly correspond with my statement, as it will appear from the following extract, (page 26.)—"In about an hour after he (the patient) had taken the first dose, the pain left him, and did not return for several hours afterwards. It was, therefore, prescribed to him, to repeat the drops at stated intervals of time, an arrangement by which, except when he had inadvertently delayed the dose beyond the time appointed, any subsequent recurrence of the pain was prevented altogether. Nevertheless, although the pain had CEASED, yet the ulceration continued to spread."

No. XVIII. *will be published on the* 1*st of April* 1809.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. APRIL, 1809.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Remarkable Recovery from a very extensive Wound in the Abdomen.

By B. HAGUE, Surgeon, Ripon.

AUGUST 30th, 1808, ten o'clock A. M.—I went to Norton Mills, about four miles from hence, to see John Brown, æt. twelve years, who had received a wound in the abdomen by a pair of wool shears. On my arrival, which was little more than an hour after the accident had happened, I found the poor lad in a very distressing situation; the *great arch of the stomach*, and the whole of the *intestinal canal* (duodenum excepted) contained within the abdomen, having protruded through the wound. The incision was on the left side of the body, commencing at about two inches below the scrobiculus cordis, and extending in a straight line near four inches in length, distant from the navel two inches, so that I suppose it must have been pretty nearly in the course of the linea alba of that side. He was quite sensible, and had vomited so as to empty the stomach; very little blood was lost. I immediately proceeded very carefully to examine the protruded viscera, none of which were wounded, and reduced them as quickly as possible, beginning with the stomach, and following the regular course of the intestines, in the latter portion of which I distinctly felt feces, of rather firm consistence. He complained of some pain during the reduction, though not much, and expressed great relief when the parts were completely returned. I now desired an assistant to lay the palm of his hand over the wound, and make some pressure upon it; for I found that, without this, the parts would soon have protruded again by the action of respiration, which was oppressed and laborious. I brought the sides of the wound together by five sutures, beginning from above downwards, and passed the needle on each side quite through the integuments with the peritonæum, observing great caution not to wound the obtruding intestines, by keeping my finger betwixt them and the point of the needle, in passing it through. I next applied straps of adhesive plaster, so as to produce compression, and over them a compress of linen, securing the whole with a bandage, broad enough to reach from sternum to pubes. Before I had done, he complained of feeling very faint, and I gave him to drink a little weak wine and water, which staid upon his stomach. I did not, either before the reduction of the protruded parts, or after, observe any material alteration in the state of the pulse; it was quick, and rather small. I had him laid in bed upon his back, and particularly desired he might be kept in that posture. I took twelve ounces of blood from his right arm, and dissolved an ounce and half of magnes. vitr. in half a pint of broth, of which I directed four table-spoonfuls to be given every two hours, and left him tolerably easy.

7 o'clock P.M.—Respiration much oppressed, accompanied with a ruttling, which occasioned great uneasiness. Abdomen not very painful. He had retained what he had swallowed, but had not had a stool. I admiuistered an enema prepared with magnes. vitr. ℥ij. dissolved in twelve ounces of gruel, with an ounce of oil. It staid with him near five minutes, when it returned, and brought away some feces, which I judged were from the rectum only. As the injection passed up, he expressed great satisfaction, and observed, " it felt very nice. " As soon as the bed-pan was removed from under him, he vomited the whole of what he had taken, which had been very little, and that only fluid, in addition to the opening medicine. A lumbricus worm, which was dead, was also thrown up. Immediately after the vomiting, his breathiug became more free and easy, and he was evidently much relieved by it. As he expressed so much comfort from the glyster, I waited two hours in order to repeat it: I then injected some broth only, which he observed as before was " very nice. " It came away almost immediately, without bringing any thing else with it. He fell asleep soon after. I left tinct. opii. gtt. xxx. which I desired might be given when he awoke, if at all restless or uneasy. Pulse quick, skin hot, and he complained

of thirst. Deeming it absolutely necessary to keep the stomach as empty, and in as quiet a state as possible, I desired that very little fluid should be given him, and totally forbid solids of every kind.

31st, 8 o'clock A. M.—Had slept pretty well, from the time of my taking my leave last night, till two o'clock this morning; after that he became restless and uneasy; his attendant omitted giving the opiate as directed; pulse quicker than last night, and hard; skin very hot, tongue white, and thirst increased; respiration more oppressed, accompanied with ruttling and a frequent short cough: he made no complaint of pain in the body, except a soreness of the wounded part; had made water two or three times during the night, but had no stool. I administered a glyster of a solution of magnes. vitr. &c. which very soon came away, without bringing any fecal matter with it. He had not vomited since last night, although he had been allowed more to drink than I wished. I took away twelve ounces of blood, which produced faintness, but he did not vomit. I left him betwixt nine and ten o'clock, and ordered the following mixture to be sent for immediately ℞ magnes. vitr. ℥j. solve in aq. fervent. ℥vj. cola et adde tinct. sennæ ℥vj. M. detur coch. iij. 2ndâ quaq. horâ donec alvus bis terve responderit. I had been at home above an hour before the messenger came for the medicine, who informed me, that very soon after I had left the house he had a stool, and before he came off, he had had another: I therefore altered the directions for taking the mixture, and ordered two table-spoonfuls to be given every three hours.

7 o'clock P. M.—My partner, Mr A. Robinson, rode with me to see our patient this evening. We found him breathing with great difficulty and ruttling; cough short, frequent and teazing; pulse quick and hard, and every febrile symptom aggravated since morning. Abdomen painful and swelled. The stools he had had in the forenoon were unfortunately thrown out, so that we could not see them, as was at this time most desirable; but the nurse informed us they were quite watery, without any fecal matter or smell; our hopes therefore of having obtained a complete passage through the bowels, as we expected to find, were by this account disappointed. He had thrown up the medicine every time he took it. We repeated the bleeding ad deliquium, and administered an injection as before, which immediately returned without any thing else, and he vomited a considerable quantity of a dark-green coloured fluid, very like bile. On examining the bandage round the abdomen, it was found so very tense, in consequence of the distension which had now come on, that we considered it proper to unloose and slacken it, from

which he experienced some relief. We left him in a great deal of pain, and in a state of considerable anxiety, though he breathed somewhat easier than before he vomited. I gave him the opiate he ought to have had last night; and we took our leave, very doubtful of his living till morning.

Sept. 1st, 8 o'clock A. M.—I had the satisfaction of finding him much better than last evening. Respiration easier, cough less frequent, and ruttling not so loud; he had had no more vomiting; abdomen greatly subsided, and much less painful; external heat abated, and he could bear a little pressure upon it without complaining; pulse softer, and every other febrile symptom mitigated; he had had no stool, but had made water plentifully. Our directions had been strictly followed, and he had been allowed very little to drink; the stomach therefore was kept nearly empty, and free from distension. I administered a glyster, which staid near a quarter of an hour, when it came away discoloured, and having a strong fecal smell. Fully convinced of the necessity of keeping the stomach as empty and as quiet as possible, I still more particularly desired that he might have very little to drink; and as he still continued very thirsty, I ordered tamarinds to be taken occasionally, instead of any kind of fluid, and directed a tea-spoonful of the following electuary to be given every two or three hours: ℞ elect. sennæ ℥j. ol. ricini ℥ss. m. ft. elect. The blood taken away last night exhibited a highly inflammatory appearance; *buff* very dense, and very much contracted or *cupped*.

7 o'clock P. M.—Continues better; had been tolerably easy during the day. My directions in regard to regimen had been strictly observed, and I found his body in an easy, relaxed, cool state. About two o'clock he had had a stool, which was shown me; it was quite fluid, but in smell and colour highly fecal, in quantity about three quarters of a pint: he had coughed less, and breathed easy, with very little ruttling.—Rep. tinct. opii. gtt. xxx. h. s.

2d.—He had slept so well the early part of the night, that his nurse omitted giving the draught. The cough and difficulty of breathing were increased this morning; pulse hard, febrile symptoms increased. He complained of pain in the left side, and thought himself, as he evidently was, in every respect worse; he had had no stool, had made water plentifully. I repeated the bleeding; in endeavouring to pass up the injectiou, it failed, and but very little was got up. The body was relaxed, and not painful on pressure. I ordered the electuary to be continued as before; and directed two table-spoonfuls of an emulsion, prepared with oil of almonds, with a little spt. of nitre in it, to be given every three hours. He complained very much of hunger, and I gave him half a dozen spoonfuls of boiled milk, which he took greedily. I remained with him half an hour after he had taken it, and it staid upon his stomach. I desired a glyster might be given at two or three o'clock in the afternoon, if he should have no stool before that time.

7 o'clock P. M.—The glyster had been given as directed; it staid with him two or three minutes, and then brought away with it a quantity of *feces* figured, with some hard lumps. He had made but little complaint since I left him, until about an hour ago, when his cough became more troublesome, and he complained of more pain in the left side of his body. Pulse harder and quicker than in the morning; external heat all over the abdomen, as great or greater than I had almost ever felt it. On examining the blood taken away this morning, I found it as inflammatory as that of the evening of the 31st ult. I immediately unloosed the ligature on his arm, and took away about ten ounces more, which produced a sensation of sickness, but neither vomiting nor deliquium. I then administered an injection, and, in less than two minutes, he had a copious evacuation of feces figured, with one or two hard lumps. This relieved him considerably; his body, he said, felt lighter, respiration became easier, and his side less painful, pulse softer, and external heat lessened. I gave him tinct. opii. gtt. xxx. in a dose of the emulsion, and desired that he might have the draught, omitted the night before, towards morning, if he should be very restless and uneasy.—Cont. emuls. et elect.

3d, 8 o'clock A. M.—About an hour after I left him last night, he retched very violently, but did not vomit; after which he became easy, and slept well and sound till three o'clock in the morning. Cough and pain in the side abated, and in every respect much better than last night; respiration free; the blood last taken away quite lax and florid, showing not the least signs of inflammation; had had no stool, but made water plentifully. Cont. emuls. et elect. Rep. enema. I desired he might be allowed a little boiled milk during the day, without bread in it; solids totally forbid.

7 o'clock P. M.—Passed a quiet, easy day, having slept the greatest part of it. He became restless, and rather uneasy, about the same time as last evening; more feverish than in the morning, and abdomen more painful; cough rather troublesome; no stool nor vomiting. His bed having now become very uncomfortable, I had him carefully taken out, to have it made afresh. I administered an enema, which staid with him ten minutes, and then came away, without bringing any fecal matter with it. I

gave him tinct. opii. gtt. xxx. with his emulsion. Soon after taking it, he retched, but did not vomit; after which he thought himself easier.

4th.—Mr A. Robinson visited him this morning, and found him pretty easy; he had passed a good night; no stool nor vomiting. He was ordered for diet to-day, a little hasty-pudding, with treacle, for he now made frequent complaints of hunger. A messenger came in the evening to inform us he had been easy all day, but was not quite so well when he left him. Cont. emuls. et elect. et omittr. haust. anod.

5th.—Had passed a quiet, easy night, and slept well, free from pain and fever; had a stool yesterday, and one this morning, which was more fluid than the two last, but quite fecal; he coughs sometimes, and expectorates with ease a quantity of thick purulent-like excretion. I removed the dressings from the wound, which were loosened round the edges by the discharge; it looked very well; the sides were not quite approximated betwixt the sutures, the spaces being filled up with healthy-looking granulations; none of the ligatures had separated. I dressed with dry lint and straps of adhesive plaster. He yesterday had taken hasty-pudding at three different times, to the quantity of a saucerful in all, which he liked much, and which had agreed with him very well. He had no nausea or vomiting. The same diet to be used to-day; in greater quantity, if he likes it.

6th and 7th.—Going on in every respect very well; had two full evacuations on the 6th. In addition to his hasty-pudding, he had been allowed some mutton broth; he also ate a very small piece of mutton. I dressed the wound again to-day as before, which looked very well: its sides were considerably approximated in every part since the 5th ult.

9th.—Dressed the wound; one or two ligatures had separated; and as the rest produced some little ulceration, I took them quite out. In every respect mending daily.

11th.—Wound healing rapidly. I allowed him to-day to get up, at which he was not a little pleased; he soon dressed himself, and walked down stairs, by my taking hold of his arm. Bowels quite open and regular.

20th.—Rode on horseback to Ripon to have the wound dressed, the whole of which was healed, except a very small portion at top and bottom. In every respect very well, and regaining his usual healthy appearance. Appetite and digestion good; cough has left him.

23d.—Quite well. The stomach, distended at the upper part of the wound, appears much below its natural situation. I recommended him to wear, for some time, a broad belt, made of stout woollen cloth, round the injured part of the abdomen. He carries himself quite erect, which he did even two or three days after leaving his bed.

Remarks.

It may be matter of surprise and doubt to some, that the *stomach*, as well as the intestines, should have protruded through a wound in the abdomen, situated as described in the case just related; and it may not improbably be conjectured, that some portion of gut had really been mistaken for that viscus.

The *great arch*, with its *appending omentum*, were, however, too plain and evident to admit of any error of this sort; and my partner, Mr A. Robinson, on seeing its form externally on the evening of the 31st, distended so low, had no doubt of the fact. Dr Caley and Mr Lucas both saw the lad at Rpion on the 20th, and both saw the stomach distended much below its proper situation: its protrusion, however, is readily accounted for by the manner in which the boy was conveyed home after the accident.

Instead of being laid on a hurdle, and placed upon his back, he was taken before a man on horseback: at this time but a small portion of gut had protruded, and a handkerchief was given him, with which he was desired to press upon the wounded part, which he, quite overcome with fright and sickness, was unable to do. The horse had proceeded but a little way, before he felt more intestine pushing out, till at length such a quantity had protruded, as by its weight was sufficient to drag out the remainder, and in this way the great arch of the stomach was drawn down. He was carried in that manner two or three hundred yards.

Nov. 20th.—Mr Lucas saw the boy with me to-day. The stomach still remains much below its natural situation, so much so, as, with the bulging out of the intestines around the wounded part, to give that side of the abdomen a very irregular, prominent appearance.

He has been very well in every respect ever since his recovery; his appetite and digestion are both as good as formerly; and he is capable of enduring labour as well, and to as great a degree, as before the accident.

Ripon, 3d *December* 1808.

II.

II.

Observations on Lithotomy, with the Account of a Case in which the Operation was performed with the Knife. By William Lawrence, Demonstrator of Anatomy at St Bartholomew's Hospital.

The operation of lithotomy, as performed by one of our own countrymen, was at one time, to use the expression of Dr Thomson, justly regarded as the pride of English surgery. The strongest proof of the celebrity which Mr Cheselden's extraordinary success so justly obtained, is derived from the circumstance of the French Royal Academy of Sciences having sent one of their members to London, for the express purpose of seeing him operate, and learning his method. Mr Cheselden performed lithotomy, by cutting with a knife the membranous part of the urethra, prostate, and neck of the bladder; introducing a hollow conductor, furnished with a beak, and termed a gorget, along the groove of his staff, and passing the forceps in the concavity of the gorget into the bladder. This was called the *lateral* operation for the stone; and by this method, we are informed, that fifty patients recovered out of fifty-two who were cut successively in St Thomas's Hospital.[*] Another surgeon, who possessed at least one circumstance in common with Mr Cheselden, viz. that he was an Englishman, is thought to have introduced a most capital improvement in the lateral operation, by dispensing with the use of the knife, except for the purpose of making an opening into the groove of the staff; and employing the instrument, which Mr Cheselden used as a conductor for his forceps, to make the requisite division in the urethra, prostate, and bladder.

For this purpose, the right side of the gorget, from its beak to a certain distance, was made into a cutting edge, which divided the left side of the urethra, &c. as the beak was pushed forward into the bladder.

Unfortunately for those afflicted with the stone, the *cutting gorget* of Sir C. Hawkins has been generally adopted by English surgeons, who have substituted his improved method for the original lateral operation.

Since that time, lithotomy has ceased to be the pride of English surgeons; and the records of hospital practice, which it would be indecorous to particularize, afford a most afflicting contrast to the experience of Cheselden. As the proceedings of this most skilful lithotomist are now but little known, Dr Thomson deserves the thanks of the profession for republishing the original papers, in which his different methods and their results are detailed.

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[*] Thomson's Observations on Lithotomy, p. 21.

It is merely with a view of contributing, as far as lies in my power, to the attainment of what I think a very desirable object, viz. the abandonment of the cutting gorget, and the revival of the true *lateral operation*, that I am induced to publish the present desultory observations.

I take the liberty of differing from Dr Thomson in an opinion which he has stated in his prefatory address: "What the reasons were which induced English surgeons to relinquish, in their operations, Mr Cheselden's method of dividing the neck of the bladder and prostate gland, it may not now be easy to ascertain," p. 6.—I think nothing can be easier.

It is abundantly evident, that the reason was not the desire of saving more patients than recovered by Cheselden's method; that Hawkins did not propose to recover fifty-one out of fifty-two, or the whole fifty-two; since experience has fully proved, that the number of deaths, consequent on the operation, has increased. The obvious solution of the difficulty is this; that the employment of the gorget requires no knowledge of the parts to be cut, while the use of the knife demands a familiar acquaintance with the organs. Cheselden, who invented the lateral method, and his friend Douglas, who described it, had studied the form, position, and connexions of the bladder and urethra, and directed their incisions by the knowledge drawn from this source. Since their time many have dared to practise on the living body without any previous examination of the dead subject; and the cutting gorget, which could be used without such preparation, was of course peculiarly acceptable to such operators. "Surgeons were apparently pleased with a contrivance, which saved them from the responsibility of dissecting parts, with the anatomy of which all were not equally well acquainted."* Sir C. Hawkins, then, may enjoy all the credit of introducing into one of the most difficult and dangerous operations of surgery, an instrument which can be employed by any individual of any profession or trade, who has the simple faculty of combining the motions of his two hands, so as to keep the gorget and staff together, as well as by the most skilful anatomist and most experienced surgeon.†

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* J. Bell.

† "We cannot but lament," says Mr Bell, "that the operation by which a surgeon can ensure success proportioned to his skill and knowledge, has fallen into disuse, while a rival operation, a blindfold stroke, the dangers of which are acknowledged

The gorget of Hawkins is so narrow at its cutting part, that it divides the prostate very insufficiently; and consequently the room for the removal of the stone must be obtained by laceration. Subsequent improvements in the form of the instrument, have somewhat obviated this objection; but dissection still shows us that the incision is not sufficiently extensive. The dangers and inconveniencies, inseparable from the use of the gorget, have been so amply detailed in several late works, that it is not necessary to repeat them here. They are stated shortly by Dr Thomson;[*] but I must presume to express an opinion, that the second of his objections is not well grounded. Respecting the evils arising from the use of this instrument, I shall simply state, that I have seen the posterior part of the bladder perforated by it in one instance; in another, it slipped from the staff, and passed between the bladder and rectum, leaving the former unopened; and in a third, where the stone was large, and the opening in the bladder very small, the forceps had detached the peritonæum extensively from the bladder and rectum, pushing it up towards the abdomen;[†] and it was a very fortunate circumstance for the operator, that he had extracted none of the abdominal viscera from the wound. I could greatly enlarge this list of blunders, if I added those which are related in different surgical works, or which have been communicated to me by others. "These melancholy facts will bring home a most instructive lesson to the minds of those who have supposed it possible to substitute mechanism to skill, and to forge instruments of so happy a shape as to perform a dissection at one single stroke."[‡]

As it is not my design to give a full description of the operation, I shall merely make a few remarks on the most important points, viz. the course and extent of the external incision; the proper situation for the first opening into the urethra; and the instrument

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acknowledged even by those who perform it, usurps its place, for no avowed reason, but that it can be as successfully performed by the ignorant as by the skilful! Such mechanical contrivances would indeed be of inestimable value, were it possible in surgery, as in manufactures, to transfer the skill from the inventor to the operator, and to reduce the class of working men from scientific operators to mere mechanics, to men performing things which they do not comprehend, and contented with success they do not deserve." Principles of Surgery, vol. ii. p. 1. & 159.

[*] Page 84 and 85. See also Mr J. Bell's Principles of Surgery, vol. ii. p. 1. 112. et seq.

[†] "Patet tandem, aberrantibus instrumentis, inter intestinum rectum, et seminales vesiculas amplum spatium dari, in quo, ceu in vesicâ ipsâ, *non tamen sine discrimine*, moveri queant." Camperi Demonst. Anat. Patholog. pars 2. p. 9.

[‡] J. Bell, ib. cit. p. 168.

instrument with which the rest of the incision should be executed. The first cut ought to be made in that part of the bony arch, formed by the ossa innominata, where the space left between the converging rami is the broadest. The obvious reason for this direction is, that the stone may be extracted where there is the greatest room; where the bones will offer the least resistance; and where, consequently, the soft parts will experience the least injury. Again, the integuments should be divided in such a situation as to afford a direct opening into the bladder, in order that the forceps may pass in a straight line. It would be waste of time to prove, by argument, that these instruments will be managed with much greater facility, when the opening from the bladder is direct, than when the track of the wound describes a curve. Both these objects will be obtained, by beginning to cut at one inch in front of the anus, on the left of the raphe perinæi, and carrying the incision obliquely downwards and outwards, between the anus and tuberosity of the ischium, for three inches, in the adult subject. This situation of the external wound will be equally proper, whether the surgeon design to finish the operation with the knife or gorget. A free cut through the integuments should be particularly recommended; because it both facilitates the subsequent part of the operation, and obviates the possibility of any lodgment of matter in a future stage of the case, without adding, in the smallest degree, either to the pain or danger of the patient. The next object of the surgeon is to lay bare the groove of the staff in the membranous part of the urethra, in that portion of the canal which is between the bulb and the prostate. He must cut through some fat and muscular fibres before he arrives at this part, and must depend entirely, for finding it, on his knowledge of the organs, as the staff cannot be felt in this situation through the skin. Many operators feel for the staff in the perinæum, and cut into it there; consequently they open the urethra either at the bulb, or, as is generally the case, in front of that part. To do this, the external cut begins much higher than I have mentioned, and ends a little behind where my incision begins. The urethra is slit up down to the bladder, that is, through a space of three inches; and the bladder itself, in consequence of the narrowness of Hawkins's gorget, is very insufficiently opened. Here we have a very long cut on the urethra, which, unfortunately, is of no assistance in removing the stone; a very narrow division of the prostate requiring much contusion and laceration to make room for the extraction; and an external incision beginning so high, that it is not opposite to the wound in the bladder, and is consequently particularly unfavourable for the management of the forceps. This mode of proceeding combines all *possible* disadvantages: It is a complete misnomer to call it *the lateral* operation; it is, to all intents and purposes, lithotomy *by* the *apparatus major*. Some operators make a point of *striking* the knife into the groove of the staff, at the first cut through the skin. This, it must be allowed, has an imposing appearance, and may impress an ignorant spectator with a great opinion of the surgeon's dexterity. But when applause is obtained, at the expense of cutting an unnecessary quantity of the urethra, whatever the unskilful may think, " it cannot but make the judicious grieve. " I shall not admit that this practice is allowable, until it has been proved by sufficient arguments, that the division of two inches, more or less, of the urethra, is a matter of indifference; nor shall I be convinced of the necessity of cutting into the staff so far forwards, until it has been shown that surgeons cannot recollect any more of the course of the canal, than where it is pointed out by the projection of the instrument. The remainder of the operation, the incision of the prostate and bladder, can be very well accomplished with a common scalpel, pushed into the bladder with its back towards the groove of the staff, and then carried outwards and a little downwards, so as to divide the prostate and neck of the bladder, as far as it may be thought requisite. The forefinger of the left hand is now to be introduced into the wound, to feel the stone, and ascertain if the size of the cut be adequate to its extraction. Supposing that to be the case, the staff may be removed, and this finger serves as a guide to the forceps. The employment of a blunt gorget, as a conductor for the latter instrument, has always seemed to me an irrational proceeding. The operator's finger must be infinitely preferable, as that can feel and recognize the parts, and, by ascertaining the size and situation of the stone, will afford useful information in directing the management of the forceps. I have been particularly at a loss to understand on what principle, or with what intention the blunt gorget is introduced into the wound, when the surgeon, in the course of the operation, finds it difficult to pass the forceps. The introduction of the latter instrument must be just as easy as that of the former, and will be attended with as much probability of finding the stone; but the difficulty, if there should be any, will certainly be increased, when a part of the wound is filled by the gorget. Should the size of the stone be very considerable, the incision of the bladder may be enlarged by the knife, conducted with the left forefinger. It is often of the greatest importance, in introducing the forceps, to accommodate the instrument to the axis of the bladder. This, if the patient's trunk be horizontal, will not be quite in a line with the axis of the body, but will rather incline

cline forwards. The external incision, which I recommended, is adapted to the same point: the forceps may be passed through it into the bladder, according to the axis of the viscus, with the greatest facility; and the stone should be extracted in the same direction. When the surgeon, without adverting to these circumstances, makes his first incision high in the perinæum, and then thrusts in the forceps towards the sacrum, he will be very likely to get between the bladder and rectum. *

In the plan of operating which I have now described, the apparatus of lithotomy is reduced to a very narrow compass; it consists of a knife, staff, and forceps; and I really believe that "what is more than these cometh of evil." The best operators always use the most simple means; and a multiplied number, with complex combinations of instruments, will inevitably lead us to suspect, that they are intended "to supply the want of anatomical knowledge and practical skill, on the part of those who employ them." †

Some of the most eminent surgeons and skilful operators of the present day, use instruments of particular forms, which they consider as better calculated, than the ordinary knives, for the purposes of lithotomy. When the names of Mr A. Cooper, ‡ Mr T. Blizard, and Mr Gibson of Manchester, are mentioned, the public will feel satisfied, that they would operate adroitly with any kind of knife; and when we observe the completely different shapes of the instruments which these gentlemen respectively employ, we shall conclude, that the form of the knife is a matter of much less importance, than the manual dexterity and anatomical knowledge which govern and direct its motions. My own reason for preferring the common scalpel is, that daily use renders its management more familiar to the surgeon; and that any instrument of unusual form or size will, from that very cause, be employed to a disadvantage. The only modifications that will be requisite to

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* "Si horizontaliter adiguntur, rostra labuntur in cavitatem spuriam, pinguedine vel cellulosâ repletam. Cavum tum quidem pro forcipe invenit chirurgus, sed spurium, atque calculum antea evidentem nunc frustra quærit: propter hunc neglectum adeo frequenter in *his terris* accidit, ut absque extractione calculi, et proinde nullo cum fructu secentur ægri." Camper. Demonst. Anat. Pathol. ii. p. 15. The reader will please to observe, that, in the preceding quotation, *his terris* means Holland.

† Dr Thomson, p. 88.

‡ Mr Cooper's beaked scalpel deviates very slightly from the common knife. That gentleman having politely favoured me with an opportunity of seeing him operate, I have great pleasure in bearing testimony to the dexterity with which he employs this instrument; although his great ability in the operative, as well as in the other departments of his profession, is so universally acknowledged, that it can acquire no additional publicity from the notice of an individual.

to adapt the ordinary knife to the purposes of lithotomy, would be to make its extremity rounded, instead of pointed; and blunt, that it might slide more easily in the groove of the staff. It has been objected to me, that the operation with the knife requires too much anatomical knowledge; that persons not conversant with the parts, would not be able to adopt this method. Is not this objection a libel on the surgical examiners of the Royal College, of whose duties it is a most essential part, to take care that no person shall receive a testimonial of surgical ability, unless he possess the necessary knowledge of the human frame? This argument, however, does not affect any particular operation, but affords a very sufficient reason why such persons should not operate at all. That man must have very little respect for the decalogue, who, knowing his own ignorance, can deliberately proceed to do an operation, in which the right direction of an incision may make the difference between life and death. If a fatal event, occurring under such circumstances, should not be recognized by the law as a breach of the sixth commandment, the operator's conscience will hardly pass a verdict of not guilty. An ignorance of the position and connexions of the organs, on which we operate, is the less excusable in the present day, because abundant opportunities of anatomical information are within the reach of all; and nothing more is required than a disposition to employ them. I shall conclude these observations by relating a case, in which the use of the knife was found adequate to every purpose, under circumstances which would have been considered *à priori* as unfavourable to that mode of operating; and where the unexpected nature of the event also renders the narrative interesting.

Mr R. Cooper, aged 63, a healthy, robust, and fat man, came to me from the country to undergo the operation of lithotomy, which I performed on the 1st of December 1808, assisted by my friend Mr Crowther, surgeon of Bethlem and Bridewell hospitals. The ordinary staff and common scalpel were employed; and the various steps of the operation were executed in the manner already described. No attempt was made to feel the staff in the perinæum; the great depth of fat would have rendered that effect unavailing; for my forefinger was buried beyond the middle joint, before I had exposed the groove of the staff. In prolonging the incision towards the bladder, an inconvenience was experienced from the great thickness of fat, in consequence of which nearly the whole length of the knife was buried in the wound. I would certainly be provided, in a similar case, with a scalpel of greater length. When the bladder was opened, the surface of the stone could be just felt with the finger, thrust up as high as possible into the wound. The forceps were introduced by the direction of the finger; and extracted, without the smallest resistance or difficulty, a stone, whose greatest circumference measured five inches. The blood lost during the operation was entirely venous, and not in large quantity; but a considerable hæmorrhage took place after the patient was laid in bed: this ceased on exposing the parts, and applying cold water externally. Nothing could be more favourable than the progress of the case; there was no tension or pain about the bladder, nor any other disturbance, except the slight febrile irritation which such a wound must necessarily cause. On the morning of the 10th, a copious bleeding took place from the wound, and produced a temporary debility, which had gone off on the following day. The patient now seemed perfectly well, excepting that there was still a wound in the perinæum; but on the 14th day, while he was taking the last mouthful of a hearty dinner, he suddenly died. His daughter came to see him from the country, and entered the room abruptly, when he fell back in the bed, turned extremely pale, and in about a quarter of an hour expired, without a groan or struggle. No entreaties could prevail with the relations to allow an examination of the body.

III.

The following Account of a Case of Erythema, not occasioned by Mercury, was read at a Meeting of the Medical Society of Liverpool, by JOHN RUTTER, M. D.

DEC. 29. 1807.—J. N. æt. about 35, has a papulous eruption over all the lower part of the abdomen, from the umbilicus downwards. The penis, scrotum, groins, perinæum, and the inside of the thighs, for the space of several inches from the perinæum, are of a deep red colour, and are excoriated in several places, particularly the scrotum, groins, and the inside of the thighs; and from the excoriated parts, a thin purulent matter is discharged, of an offensive smell. The prepuce is so much swollen as to resemble a phymosis; and, from its inner surface, or from the surface of the glans, or from both, a fluid of a similar appearance constantly exudes. There is a considerable eruption of papulæ on the back of each wrist, and in the bend of each arm. The whole of the face is swollen, and the cuticle of it is rough and scaly, particularly that of the eyelids. The fore part of the neck and the lobes of the ears are also scaly. The cuticle of the chest is elevated in several points, and the whole of it is more or less rough to the touch. Skin hot and dry; tongue furred; thirst; pulse 110, and full; body open; complains of great soreness, and gets no sleep.

This complaint began on the 24th, with itching between the prepuce and glans penis. On the 25th, some papulæ appeared on the back of his wrists, and on the sides of his neck. On the 26th, Mr Christian first saw him. The integuments of the penis were then much distended and inflamed: they were smooth, shining, and of a deep red colour. A solution of zinc. vitriol. in rosewater, was directed to be applied cold to the affected parts, and renewed frequently. On the morning of the 27th, the scrotum was affected in the same manner, and the cuticle of the penis having cracked in several places, had discharged a thin ichor. The same application was continued, with the addition of the ungt. calcis hydrargyri, to the excoriated parts. On the 28th, the inflammation had extended over the pubes and the lower part of the abdomen, which was covered with a papulous eruption; and from the whole of these surfaces a profuse serous discharge issued. He complained also of a general itching, and that he had no alvine evacuation for two or three days. The local applications were continued; and a powder, consisting of chryst. tartar. pul. jalap. and sulph. præcipit. was ordered three times a day. On the 29th I first saw him, when he was in the situation above described.

He says, that he had an eruption exactly similar to this, in all respects, about seven years ago, but in a much more severe degree. It appeared under the following circumstances. He had contracted a gonorrhæa, for the cure of which he applied to an ignorant practitioner, who gave him a preparation of mercury, in the form of pills, which in a fortnight affected his mouth. In this state he caught cold; and the eruption immediately appeared, and spread over every part of his body. The discharge from the whole surface of the skin was highly offensive, and so profuse for ten days, that his linen was obliged to be changed every three hours during that time. The eruption was accompanied with excessive itching. At the close of the disease, the epidermis peeled off every part of the surface, and even off the soles of his feet and palms of his hands.

He declares that, since the former attack, he has neither taken, nor used in any manner, a single particle of mercury; and that, to the best of his recollection, he has not taken, in all that time, a single dose of medicine of any kind. After having been repeatedly and very closely questioned on the subject, he persists in this declaration. He is a married man, has several healthy children, and is in a confidential situation.

He does not know any cause to which he can ascribe this complaint, except cold, from which, he says, he suffered greatly before the eruption appeared.

As he complained that the ointment irritated the parts, it was omitted; and he was directed to foment the hypogastric region, the pudenda, and perinæum, three times a day, with a decoction of poppy-heads and chamomile-flowers in water, and after each fomentation, to dust the excoriated parts with finely levigated lapis calaminaris.

He was also ordered to take a draught at bed-time, with tinct. opii gtt. xxv.

30th.—The fomentation was applied with great relief; good sleep at night. To-day the deep red colour of the penis and scrotum is rather lessened, and the cuticle of the under side of the scrotum is nearly healed; the cuticle has peeled off that part of the inside of the thighs which was so deeply discoloured; discharge less, but still offensive. Pulse 98, smaller and softer; heat moderate; tongue and thirst as before; no stool since the 29th.

Sumat statim ol. ricini ℥ss.

Rept. haustus anodynus. h. s. necnon fotus et lapis calam. u. a.

31st.—Two copious stools yesterday; good sleep. The cuticle of the scrotum cracked yesterday in several places, and discharged freely; eruption on the arms, wrists and abdomen, scaly; discharge from the inside of the prepuce continues. Pulse 90, skin cool, no fresh eruption of papulæ. Feels relieved by the fomentation; but he says the lapis calam. irritates the parts to which it is applied.

Omittat. lap. calam.

℞ Aq. calcis, Ol. olivar. opt. aa. ℥ij.

Ft. linim. partibus epidermide orbatis ter in die admovendum, post fotum.

Rept. haustus h. s.

Jan. 1st 1808.—Passed a restless night; no stool yesterday; the cuticle is peeling off the inside of the thighs, the abdomen and wrists, in large flakes; prepuce less swollen, and less discharge from it; root of the penis, and part of the scrotum still excoriated, and discharging freely; swelling of the face and eyelids diminished; cuticle on the neck very scaly, but dry; pulse 84; tongue cleaner; thirst.

Rept. ol. ricini ℥ss. statim, haustus h. s. et linim. et fotus u. a.

2d.—Two stools yesterday; good sleep. The new cuticle, where it does not discharge, is of a deep red colour; pulse 76; discharge from the scrotum and groins diminished; soreness abated.

Rep. medicamenta præter ol. ricini.

3d.—No stool yesterday. His sleep last night was disturbed by itching in the capillitium, which this morning is rather moist with the discharge from it. Desquamation is extending into the epigastric region, but without any previous eruption of papulæ, and is attended with a serous discharge; pulse 72.

Rep. ol. ricini statim, et reliqua u. a. Sumat decoct. cinchon. ℥j. ter in die; cum acid. vitriol. ten. gtt. xij.

4th.—Good sleep at night; three stools yesterday; no itching, except in those parts where the disease is spreading, and undermining the cuticle; desquamation extending all over the chest and the upper arms, and down the inside of the thighs, towards the knees; swelling of the prepuce still further diminished; cuticle of the penis and scrotum healed, but of a deep red colour, as is also the inside of the thighs; discharge and soreness greatly abated.

The medicines were repeated, and he was directed to return to his usual diet.

5th.—Good sleep last night; desquamation general over the chest, and spreading round to the back; it has to-day reached to the right ham; the parts which have been recently denuded of their cuticle itch much, and discharge a serous fluid; his appetite is good; he feels considerable stiffness all over him, and occasional uneasiness as well as itching from the desquamation, but he is well in all other respects. No stool yesterday.

He was directed to use the affusion of warm water instead of the warm bath, which could not be prepared.

Omittat. haust. Rep. ol. ricini statim, et reliqua u. a.

6th.—One stool after the oil; slept well without the draught; was refreshed by the warm affusion; desquamation has spread all over his back and loins, and over the outside of his thighs, and into his left ham, but the legs are yet free from it; the scales are large and numerous on his abdomen and chest, and the discharge from these parts yesterday wet his linen.

Omittat. fotus. Rep. affusio aquæ calidæ, necnon linimentum et decoctum cinchon. u. a.

7th.—In every respect better; the scales are falling rapidly off the abdomen, chest and neck, and the cuticle is everywhere beginning to resume its natural colour and appearance; discharge lessened; a small spot on the top of his left foot has lost its cuticle, and there is a slight discharge between two of the toes; but the right foot and both legs remain free from the disease.

From this time the complaint quickly subsided under this treatment, and on the 12th he returned to his usual employment.

Thi

This case appears to me to be a mild but well-marked instance of the disease which has lately been described under the different appellations of mercurial lepra, the mercurial disease, and erythema mercuriale. By the authors who have hitherto favoured us with an account of it, Dr Moriarty of Roscommon,* Mr Alley of Dublin,† Dr Spens of Edinburgh,‡ and Dr MacMullin,§ it is represented as an affection of the skin, partly papulous, partly erythematic, ushered in, and accompanied with fever, and attended in its progress with more or less elevation of the surface, with excessive itching, and with an offensive serous exudation from the affected parts, and terminated by an extensive desquamation of the cuticle. In the more violent cases, the fever appears to have been of the typhoid kind; and to the other symptoms were superadded soreness of throat, a catarrhal affection, more or less severe, and diarrhœa. These latter circumstances being excluded, the case which I have just related so completely corresponds with the accounts which these gentlemen have published, that it would be a mere waste of time to attempt to prove the identity of the disease.

The reason for which I have produced this narrative here, is to show, that this disease is not always occasioned by mercury. The value of the fact, it must be confessed, depends altogether upon the degree of credit which may be given to the testimony of the patient. I have had no reason to question his veracity. He disclosed to me the circumstances which preceded the former attack, without hesitation; although, if they had been made known to his connexions, they would have occasioned very serious injury to his domestic happiness, as well as to his interests. After this proof of his confidence and candour, it would imply a very unreasonable distrust to doubt his veracity, when he repeatedly and solemnly declared, that he had not used a particle of mercury, in any form, for some years previous to the attack which I have just related. For my own part, I cannot but consider it as a point completely established, that mercury did not produce the disease in this person the second time.

But if this case had not occurred, there are circumstances in the cases which some of the gentlemen above mentioned have related, which lead me to doubt whether mercury is the sole

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* A Description of Mercurial Lepra by Dr Moriarty, 1804.

† An Essay on a peculiar Eruptive Disease, arising from the exhibition of mercury, illustrated with cases taken at the Westmoreland Lock Hospital, Dublin, 1804.

‡ Edinburgh Medical and Surgical Journal, Vol. i. p. 7.

§ Ibid. Vol. ii. p. 25.

cause of this species of erythema. I am not singular in this doubt. Dr Spens, in the remarks which he has subjoined to his cases, has already observed, that, " although in all these cases, the disease seemed to be produced by cold whilst the system was under the influence of mercury, yet its occurrence is infinitely too rare to be the necessary consequence of causes so common; something more, probably a peculiarity of constitution, is necessary for its production." As far as our knowledge of the disease has yet reached, it has generally appeared whilst the system was under the influence of mercury; and the debility produced by mercury has, no doubt, contributed to aggravate it.

In the treatment of this disease, it is agreed by all these gentlemen, that the immediate discontinuance of mercury is indispensably necessary. But Dr Moriarty and Mr Alley go further, and state, that the patient ought to be instantly removed out of the mercurial atmosphere. If these measures were absolutely necessary, we might reasonably expect, that a repetition of mercurials, during the continuance of the erythema, should increase all the symptoms of it, and retard the cure. Yet this does not appear to have been the fact always. In the last of the cases related by Dr Moriarty, p. 44, the disease began on the 20th of March, and was cured on the 3d of September. On the 8th of June, whilst the exudation and desquamation existed in the hairy scalp, and the extremities were covered with hard incrustations, the mercurial pill was ordered every night and morning, and continued until the 17th, when the gums became slightly affected. The pill was continued afterwards every night, until the 22d; yet the gradual progress of the disease towards amendment was not checked by the mercurial. In the case of Donaldson, related by Dr Spens, the erythema began at the latter end of April, and was not cured until the beginning of July. On the 8th of June, one mercurial pill was ordered to be taken night and morning; and it was continued until the 17th, when his gums were slightly affected. One pill only was then given daily until the 22d. In this case, also, the erythema was not aggravated by the mercury; on the contrary, Dr Spens remarks, that, from the time when the mercurial pill was given, the disease of the skin certainly decreased more quickly. In a case communicated to Dr Moriarty by Mr Hewson Bigger, the disease reappeared three or four times, at distant intervals, by the use of a small dose of opium; and a length this patient was cured of her venereal complaints by th solution of sublimate, but without the recurrence of the erythema.

Th

The two first of these facts do not seem to confirm the opinion, that the disuse of mercury, or a removal of the patient from the mercurial atmosphere, are essentially necessary for his cure; since we find, that a repetition of the mercurial, so as to produce decided marks of its influence on the system, at the very time that the erythema was present, neither added to its severity, nor prolonged its duration; and the last fact, quoted from Dr Moriarty's pamphlet, appears to me to prove decidedly, that mercury is not the sole cause of this disease; for in that case, the eruption was reproduced three or four times, at distant intervals, by opium, and was not reproduced by mercury.

These remarks are not made with any design to point out what might seem to be inconsistencies, or incongruities, in the accounts of these gentlemen; but merely to show, that we are not yet sufficiently acquainted with the history of this disease, to be enabled to decide, with certainty, concerning either its exciting or predisponent causes.

If, however, the fact which I have stated be admitted as authentic, the epithet mercurial can no longer be applied to the disease with any kind of propriety.

Liverpool, Feb. 1. 1809.

IV.

History of a Case of Tetanus cured by Purgatives. By H. Briggs, M. D. One of the Physicians of the Dispensary, Liverpool.

Luke Gaskell, a carter, æt. 27, upwards of six feet high, applied at the Dispensary, on Tuesday, July 12th 1808, which was, I believe, the hottest day that occurred at Liverpool, during all the hot weather in the months of June and July. A thermometer at the Infirmary, in a northern aspect, stood for some hours at 91, though the sun was overcast the greatest part of the day, and there was a considerable breeze from the south-east. The highest point to which one of Six's thermometers, belonging to my friend Mr Perry, rose in a north-eastern aspect, was 89. My own, in a similar situation, was not observed during the middle of the day; but between 5 and 6 P. M. it stood at 83-4; and very late in the evening, it had not fallen many degrees below 80. Indeed, I remember to have observed at the time, that, to my own sensations, the heat was almost as oppressive then as it had been in the middle of the day.

The first brief notice of the symptoms is as follows—Stiffness and pain of limbs, back and belly, with frequent severe catchings, during which he has bitten his tongue several times; jaw nearly closed; no wound; began gradually upwards of a week ago; has been laboriously employed under the hot sun every day; belly costive.

The nature of these symptoms could not possibly be mistaken; yet several circumstances concurred to prevent me from taking the alarm so immediately, or so fully as I should have done. The very last case for which I had prescribed, was also one in which the jaw was most completely locked; but it was of the spurious intermittent kind, connected with epilepsy and an old hemiplegia, in a girl. All the symptoms, however, had been much aggravated since the commencement of the hot weather. I had also met repeatedly with instances of great and general muscular pain and rigidity among labourers, in summer, for the most part connected with an attack on the bowels; which affection (for want of knowing what other name to give it) I had hitherto denominated *rheumatic*; though I had remarked at the time, to the young gentleman who officiates as my clerk, that it appeared to be nearer akin to the *cramps* which occur in cholera, than to genuine rheumatism; and this disorder had uniformly yielded to moderate doses of calomel and pulv. antimonialis, with or without jalap. I had lately seen the same treatment afford very considerable relief to a labouring man, who had been seized with convulsions since the hot weather set in, and who was afterwards subject to have his head drawn to one side. I had seen, during the preceding winter, a complete case of trismus (not arising from a wound) speedily cured by purgatives, under the direction of one of my colleagues. In the present case, too, the existence of a wound was steadily denied, and the patient had *walked* from his own house to the Dispensary, a distance of more than a quarter of a mile. Taking all these considerations together, I confess I was not at the moment prepared to expect so formidable a disease as I soon afterwards found I had to contend with. Nevertheless, I gave strict charge that I should be informed of the effect of the following powders—Calomel and pulv. antimon. ā gr. iv. jalap gr. x. 3tia q. hora repetend. donec plene responderit alvus.

13th, 9 A. M.—Has taken four powders; no stool; much worse in every respect; head drawn back, teeth nearly closed, muscles of face forcibly retracted, deglutition difficult, has bitten his tongue much; convulsive catchings very frequent and general, but particularly from his head to the bottom of his back, and so violent that he would be pulled down backwards, if he were not supported; they are brought on by every attempt to open his mouth;

pain and rigidity very general and distressing, more especially affecting the abdominal muscles, which are drawn into hard knots. The parts *least* affected are the arms, but they are by no means free; no sleep; has not been able to lye down at all. And here it may save some repetition to state, once for all, that from this time he was never able to lye down for a moment till the 23d, and then but for a very short time. His general position was sitting on the edge of a bed, with his arms round the post, to save himself from being pulled backwards by the spasms; but it also required one or more persons with bolsters, &c. to sit by and support him, day and night; and I have more than once seen him pulled over with great violence when these persons were off their guard. Sometimes he was moved into a strong elbow chair;—perspiration profuse; pulse not stated.

On further inquiry respecting any wound, it appears that, about four months ago, he knocked the skin off the left inner ancle, with the shoe of the other foot, and that there is a hard scab on the place. But, on removing this, the cuticle is found to be formed underneath, and no pain is felt there. At this visit I collected the following information from himself and his wife—That he had been engaged in loading and carting hay, almost daily, during the preceding fortnight of intensely hot weather; that about eleven days ago, he remarked that he was apt to yawn frequently, and that it gave him great pain; that by degrees he felt *stiff and sore all over*, but that he continued to go through his work till Saturday the 9th, when, after having loaded and unloaded one cart in the morning, in great pain, he was obliged to desist; yet still he followed his team till a late hour at night, but was so stiff, that once, when the horses ran off, he attempted in vain to run after them. It happened to be the finishing day, and he continued at work till eleven o'clock at night, after which the labourers sat down to supper; but he found great difficulty in opening his mouth wide enough to receive the meat, and also in swallowing it; he drank little; and soon after he got home he vomited what he had eaten. On Sunday the 10th he lay in bed all day, and felt all his complaints increasing. On Monday the 11th, his team was to be employed about the docks; and being anxious to give some directions in person, he was lifted on to the head of his cart, where he contrived to sit unsupported, without falling off, while it went from his own house and returned by another way, forming a circuit of between 2 and 3 miles. Yesterday, the 12th, he walked to the Dispensary; but *fell*, once in going, and twice in returning, though he had a stick and a person to assist him. To-day, it is with the greatest difficulty that he can get from one room to another, supported by two persons; he cannot extend his legs, or set his heels down.

I immediately ordered that he should take every 4 hours calomel gr. x. with a teacupful of the following—Infus. sennæ ℥xiv. pulv. jalap. ℥ss. tinct. sennæ ℥ij. N. B. This teacup, which was always afterwards used as a measure, was found to hold very exactly 1-6th of the pint; so that each dose contained pulv. jalap. ℈ij, and rather better than ℥ijss of the liquid. I also directed, that a caustic of kali purum should be applied to the ancle, and that he should have the cold affusion. The last named application, though ultimately it seemed injurious, proved so grateful in the beginning, that at his own request it was repeated three times the first day.

The following observations respecting it, were noted on the spot by Mr Bridge, one of the apprentices of the Dispensary, whose unremitted vigilance suffered scarcely any incident connected with this case to escape him.

"10 A. M.—Had 16 gallons of water, about the temperature of 56, thrown over him; but first, after he was stripped, I desired him to bring on a spasm, by attempting to open his mouth. At this moment a large bucket of water was dashed over him, which instantly resolved the spasm; nor could he bring it on again, by any effort, while he remained in the tub. Since he came out, he has had no spasms for ten minutes; but they came on every *two* minutes before.—Perspires very much, but does not complain of cold.

"10 P. M.—Was going into the bath when I called. I inquired exactly what he thought brought on the spasms; he said, they came on *when he thought about them.* I desired him to bring one on *then* by thinking about it; but he could not: he said, the idea of having the water dashed over him prevented them."

Had two stools soon after my morning's visit, quite black, not very loose; the former scanty, the latter copious: has since taken another (the 5th) of the first ordered powders, and also calomel ℈i. and nearly half of the mixture. No more stools.

14th, 9 A. M.—Has taken calomel ʒss. and the remainder of mixture in the night; two watery and very green stools; no griping; a more comfortable night, but no sleep, except for a very few minutes; afraid to go to sleep, lest he should bite his tongue; spasms nearly as frequent as before, but slighter, and attended with very little pain, since the first use of the affusion; has had it once this morning; jaw not much more relaxed. I directed the following application to the jaws, spine and abdomen: pulv. opii ʒii. axang. ʒvi. M.

10 P. M.—Total of medicine taken to-day, calomel, gr. lxx. and 5-6ths of the mixture; four additional stools, thin, and very dark. Spasms were more severe this evening, most particularly affecting the abdomen, which is very rigid; easier at present; has just slept a little, at which time his jaw was considerably relaxed; does not perceive much benefit from the opiate friction; breath begins to have the mercurial fetor. At this visit, my colleague Dr Carson accompanied me; and, immediately recognising the patient's mother, informed me, that he had had another son of hers (a grenadier in the Lancashire militia) under his care, with *globus hystericus*, and a whole train of nervous affections, which, after resisting various antispasmodics, were cured by the free use of purgatives. I also found, that the mother and sister, two tall women, had many hysterical symptoms. These facts naturally strengthened me in my determination to give the plan a full trial in the case before us. I therefore continued the purgatives, and directed that he should have a bottle of old sherry, to be repeated according to circumstances. Had the affusion in our presence: state of the pulse before it not specified; but I remember it was quick;—soon after coming out it was 102, and he could walk better.

15th, 9 A. M.—Has taken calomel ʒss. and ℔ss. of the mixture; two thin stools, very green, with a substance not unlike tea grounds suspended in them; *no griping;* several short sleeps, during which he snored, and his head inclined forwards, and the jaw was somewhat relaxed; it is now nearly closed, and the head is retracted as before; spasms not so severe or frequent; thinks the ointment has given him some ease about his throat; has taken tea with an appetite; swallowed some cherries yesterday, which are voided little changed; has not used more than half of the wine:—The affusion was repeated in our presence; pulse before it 108, after it 96, and he was able to walk better; frequent slight eructations of flatus. Pergat. add. infus. Tinct. zingib. ℥ij.

2 P. M.—Two short sleeps after the affusion; has just had it again:—pulse before it 96, after it 90; two thin stools, very dark; spasms not worse. Here we were desirous to try whether the disposition to sleep might not be promoted by moderate doses of opium, without contracting the operation of the purgatives, which we directed to be continued; and we gave him tinct. opii. gtt. xl. in a large glass of sherry, intending to repeat or increase the dose according to the effect.

9 P. M.—No sleep; no stool; total of medicine taken to-day, calomel, gr. lxx. and rather more than ℔j. of mixture; mouth very sore; spasms much the same: had several while taking the last dose of the infusion, by which a part of it got into the

glottis, and occasioned extreme distress; has eaten one Savoy-cake steeped in wine; the first bottle is but just finished; thinks it supports him; had about 60 gallons of water dashed over him; pulse before it 104, after it 96. The circumstance of his having had neither sleep nor stool since the opiate was given, deterred us from repeating it, at least until another motion had been procured. ℞ calomel. scammon. ā. gr. x. gambog. gr. iii. M. fiat pulvis 4tâ q. hora repetendus. Repet. mistura.

16th, 9 A. M.—Has finished the third pint of the mixture, and has taken two of the last ordered powders; three stools, the last very copious, black, and nearly of a natural consistence. Rigidity, pain and spasms were all aggravated for some hours after the affusion last night, and thinks his jaws have been more stiff after *each application* of late; had afterwards many comfortable sleeps, during which his jaw was relaxed at one time to the extent of an inch and half, though he can scarcely open it so much as half an inch when awake.—N. B. It is not clearly expressed in the minutes, nor can I now recollect, whether he had any sleep or not, *before* the bowels were moved. Considerable salivation; much smarting of his tongue, occasioned by the ginger. Omit. calomel. et tinct. zingib.

3 P. M.—Spasms more severe; great distress of countenance; has taken no purgative but one cupful of the mixture; three loose stools, of a lighter colour; drowsy, but little or no sleep; great thirst; has not taken much wine.

This day and the following, were days of extreme perplexity with me. I had all along been aware of the awful responsibility I incurred, by departing so widely from the usual practice in tetanus, and now my resolution failed me altogether. I was terrified with the apprehension that I had already delayed the free exhibition of opiates too long, and I determined to have immediate recourse to them, while yet I was loath to relinquish the use of purgatives. Fortunately I had this day met with a medical friend, who has had opportunities of seeing various plans tried for the treatment of this terrible disease; and from him I learnt, that though his experience had taught him to depend chiefly on *opium*, administered in large quantities, both *internally* and *externally*, yet, of the two, he thought the *external* application the more efficacious; whence I was willing to hope that, by the more diligent use of *opiate frictions*, conjoined with active purges, the good to be expected from either plan might be secured. I therefore ordered pulv. opii. axung. ā. ℥ss. M. for an ointment, and gambog. gr. v. scammon. gr. x. M. to be taken with the mixture, as before.

5½ P. M.—One powder and one dose of mixture taken; one copious stool like the last; one sleep of about five minutes, in which the jaw was opened full two inches; spasms continue very severe; pulse 104. Still I could not satisfy myself that I was discharging my duty to my patient, in withholding the *internal* use of opium so long; and I now gave him tinct. opii gtt. lx.

9 P. M.—No sleep; spasms more severe; no stool; has taken a second powder and dose of mixture; flatulence, profuse perspiration.

Here I was, more than ever, at a loss what course to take, and yet it was necessary to decide promptly. If opium was to be relied on, it was obvious that it must be given to a much greater extent than hitherto; but then it was equally clear, that the purgative plan must be abandoned: And, on a cool review of the history, I asked myself whether, if the case should terminate fatally, as I then feared it would, I could with justice affirm that *purgatives had been fairly tried and had failed?* whether, on the contrary, the exacerbations that had occurred, ought not to be ascribed to the *interruption* of the plan, rather than to the plan itself? whether, up to the time when I gave the first small dose of laudanum, the symptoms, considering their urgency, and the rapidity of their increase from the 11th to the 13th, had not been kept in *check* as much as could have been expected? whether, in having recourse to opiates, I had not been influenced more by my fears, and by deference to the judgment of my friends, than by any real change in the indications? Finally, I concluded to adhere to the purgatives, and to discontinue the *internal* use of opium, at least till the bowels were again opened; and I changed the tinct. sennæ for tinct. jalap. At the same time I renewed my injunctions respecting the friction; but the last ointment proving too tenacious, I ordered the former to be mixed with it; so that the proportions *then* were, opii ʒvi. axang. ʒx.: I also prescribed tinct. opii, liniment. sapon. ā ℥ ii. M. with directions that this formula, or the ointment, should be preferred, as either might, upon trial, appear to be the more beneficial. I likewise urged him to take *more wine.*

17th, 9 A. M.—Two powders and two doses of mixture taken; no stool; some delirium about three this morning; rigidity much increased; spasms extremely severe; knees cold; has slept a little; has not used much wine; pulse 98. In this extremity no time was to be lost. There were remaining in the house some of the compound powders of calomel, scammony and gamboge: I mixed one of these with one of the last prescribed, making a doze of calomel gr. x. scamm. ℈i. gambog.

gr. viij. and gave it to the patient myself. I don't find it noted that he took at this time the usual dose of the mixture; if I recollect right, there was none of it left.

3 P. M.—No stool; has taken two more of the single powders of scammony with gamboge, and two doses of the mixture; *neck* not so stiff, but *abdominal* spasms more severe; rather light-headed all day; ascribed to his having drunk *more wine* than usual; but has not quite finished the bottle which was opened last night. ℞ infus. sennæ ℥xiv. sodæ vitriolatæ ℥i. pulv. aloes ʒii. M. ft. enema statim injiciendam.

9 P. M.—Clyster soon rejected; has since taken another double powder, and a single one of scammony and gamboge, without calomel, and three doses of the mixture. Spasms have been very severe; *two* small stools, some sleep, during which his head sunk on his breast; pulse 104; legs inflamed. The last bottle of wine has lasted twenty-four hours.

So little effect, and no inconvenience having been experienced from the *double doses* of powders, I ordered a *set* to be made of the same strength.

18th, 9 A. M.—Has taken two of the last ordered powders, and two doses of the mixture; seven stools of a more natural colour, not loose; spasms were very violent *before* the stools, but much moderated since, and has slept many times, once for near half an hour snoring, and with his head hanging forwards; can move his head, *while awake*, more freely than ever; thinks the friction useful, particularly in moderating the pain of the abdominal muscles; uses the ointment and liniment alternately; legs much swelled; has taken about half of a bottle of sherry.

3 P. M.—Two more powders and two doses of the mixture taken; two small yellow stools; *no griping*; spasms more moderate; countenance considerably improved; disposed to sleep; pulse 104.

9 P. M.—One powder, and one dose of infusion taken; four stools, darker than the last, and very thin; spasms much slighter, and less frequent; rigidity much as before; can open his mouth about half an inch—mouth very sore; considerable salivation; pulse 102.

19th, 9 A. M.—One double powder and two doses of mixture taken; six yellow stools, of a more natural smell, not very loose; *flatus discharged downwards for the first time*; spasms farther abated in severity and frequency: they are generally brought on by an attempt to spit out; salivation considerable; many long sleeps, during which he snored, and opened his mouth nearly two inches; frequent subsultus tendinum while asleep; much inclined to yawn; can move his head and legs better; some miliary eruption;

tion; has been almost constantly in a state of profuse perspiration; weather intensely hot; has eaten a bason of broth with a keen relish; not more than ℔ss. of wine taken in the night; pulse 92.

The events of the three last days proved decisive. From this time my views were fixed, and the patient's convalescence may be dated. I thought it prudent, however, to discontinue the strong powders, and in their stead prescribed pilul. e colocynth. cum aloe gr. xv. 4ta. q. h. with the mixture as before.

9 P. M.—ʒi. of mass and four doses of mixture taken; four stools of a more natural colour and smell, the first figured; spasms rather stronger, but not so frequent; countenance much improved, respiration free, rigidity of back and limbs much the same; has neglected the friction to-day; sleeps much, but still subject to subsultus; appetite for broth very keen; flatulence; thirst abated; less perspiration.

My reports were regularly continued twice and three times every day; but as there is much sameness in them, it may suffice to notice only some of the more prominent circumstances, and the quantity of medicine taken daily.

20th.—Gr. 75 of mass and lb. j. of mixture taken; six stools, nearly natural; no griping, better in euery respect, but spasms still so strong, that he bit his tongue to-day.

21st.—Gr. 75 of mass and five doses of mixture; tongue bitten again; twenty-two spasms in five hours, which are thought a small number; spirits very good; feet much swelled and inflamed.

22d.—ʒi. of mass and five doses of mixture; spasms milder than ever, abdominal muscles very painfully contracted.

23d.—ʒi. of mass and 4½ doses of mixture; *able to lye down for the first time*; pulse occasionally intermitting; very few spasms; motion of jaws much improved; can eat solids; use of purgatives suspended.

24th.—Was unable to lye but for a very short time; obliged to sit up at night; several thin stools without medicine; took gr. xv. of mass this morning, and no stools for some hours after: total of medicine taken to-day, ʒss. of mass; has had no wine for two days, and has not slept so well; able to sit unsupported in a chair without arms; salivation returned; no calomel since 19th.

25th.—ʒss. of mass, no mixture; five stools of various colours and solid; has walked a few yards without help; can set his heels down; can open his mouth near two inches; spasms recur about ten or twelve times a-day: still brought on if any person touch his feet suddenly; feet inflamed, legs œdematous, urine scanty and high-coloured; pulse 80, rather irregular; much distress occasioned by cough and sneezing.

26th.—Gr. 45 of mass; no mixture for three days; spasms decreasing daily; *can touch his toes* with his hands; legs more œdematous; urine scanty, and voided with pain; rigidity and pain of abdominal muscles very great, with soreness to the touch in the right iliac region. Empl. Canth. parti dolenti.

27th.—Gr. 45 of mass and one dose of mixture; stools black for some days; pain in iliac region, distinct from soreness of blister; spasms stronger and more frequent; a fit of cough so severe as to threaten suffocation, occasioned by food getting into glottis, but it did not bring on a spasm; thinks the *powders* and *mixture* relieved him more than the pills.

28th.—One copious thin stool, from half of one of the double powders and one dose of mixture; surprisingly better; *was able to lye down all night*, and slept almost without interruption; took gr. xv. and a dose of mixture about noon, but none since; five very large watery stools; has lain on the bed all day; has not been able to lye down at all for fifteen days and nights, except for a very short time on the evening of the 23d. Œdema much subsided, urine copious and pale, abdominal muscles much relaxed, pain felt only on coughing.

29th.—45 gr. of mass and two doses of mixture; four stools, not loose; a comfortable day, but spasms were rather stronger before he took any of the mixture.

30th.—Gr. 45 of mass and a dose and half of mixture; spasms not now brought on by touching his legs; had twelve in the night and five to-day; flatulence.

31st.—Only a half dose of mixture taken; three stools; has not slept so well; spasms stronger; jaws stiffer; much relief from friction; the ointment and liniment first prescribed have lasted till now.

August 1st. No more medicine taken yesterday; three solid stools; very restless during the former part of the night. About one this morning had a most severe attack of pain in right iliac region; took gr. xv. of mass and a dose of mixture; had six thin stools, after which the pain began to abate gradually, till he had two others, green and watery, when it ceased altogether; has since taken a half powder and another dose of mixture; two slimy stools, a very comfortable day, only four very slight spasms. Abdominal muscles drawn into knots, and always feels the pain grow gradually worse when he is longer than usual without purgatives. Fomentations ordered to abdomen; salivation again returned, no calomel since the 19th, except gr. v. on the 27th.

2d.—Gr. 45 of mass, 1½ dose of mixture, and a double powder;

der; three copious whitish stools in the night; slept very well after, but could not sleep before; *bit his tongue in the night;* only four slight spasms to-day; five very offensive whitish stools; can open his mouth almost as wide as when in health, but very slowly; cannot put his tongue out.

3d.—Gr. xv. of mass and 2½ doses of mixture and calomel; gr. x. scammon. taken; only one spasm since yesterday; was *out* today for first time, and walked about 100 yards, supported by two persons; can set his feet flat down, but cannot bend his knees much, and has considerable difficulty to *get up steps.*

4th.—ʒss. of mass, and calomel gr. x. scammon. ℈i; was able to turn himself in bed last night for the first time; coughing does not now excite pain in iliac region. About three this afternoon he felt a sudden painful jerk in his jaw, *as if it were slipping into its right place,* and can move it more freely ever since; can always open it wider immediately after the opiate friction.

5th.—ʒss. of mass, and a half dose of mixture; no spasms; pain of abdomen gone; *can put his tongue* out to-day for first time.

6th.—Gr. 45 of mass taken; no complaint, except a little general stiffness.

9th.—*Walked to the Dispensary,* it being exactly four weeks this day since he first applied there; yesterday he walked upwards of a mile *alone;* had a call to ease himself by the way, and was able to effect it; takes ʒss. of mass daily; about three stools, whitish and not loose; some remaining stiffness of jaws, thighs, and abdominal muscles; no pain; uses the ointment daily; sleeps well.

16th.—Muscles of abdomen still hard; very little remains of stiffness besides; ancle nearly healed; takes ʒss of mass daily; took half of a powder on the 10th, and felt better for it.

Oct. 2d.—He called upon me, quite well; and I may, with truth affirm, that, never till now, when his features had recovered their natural expression, had I a just conception of the degree to which they had been distorted by the cynic spasm. He has followed his usual employment for about a month; got much wet ten days ago, and felt some pain in his back the next morning, but it went off in the course of the day and night following. Had occasion to take ʒss of the mass and a dose of the mixture about a fortnight ago, after eating some cheese; had taken none for some time before, and has needed none since; abdomen still feels rather hard to me; but he says it is as gentle as before he was taken ill; some rumbling in his bowels at times; advised to repeat the medicines if this last symptom should be more urgent.

January, 1809.—His father told me he remained in perfect health.

Remarks.

Remarks.

The foregoing is a faithful abstract from notes taken on the spot. Perhaps they might have been still further abridged, without injury; but I have been less solicitous to avoid the imputation of prolixity, than to conduct the reader, as it were, into the chamber of my patient, and there to leave him to draw his own conclusions.

Whether, notwithstanding the old contusion on the ancle, the case ought to be classed as one of genuine trismatic tetanus, or not, I do not undertake to decide; but, if the local affection had really any share in bringing on the symptoms, it is certain that there were also other very powerfully concurring causes. In the first place, from the circumstances not only of the patient's mother and sister, but also of his brother (a soldier), being subject to *hysterical affections*, some proneness of temperament may be inferred.

Possibly, indeed, such a predisposition, hereditary or acquired, may have existed oftener than it has been traced or suspected, in cases indisputably proceeding from wounds. I have now before me some affecting particulars of the case of a young lady, whose family are strongly predisposed to mania, and who has herself been now upwards of seven years permanently deranged, which, as far as a single instance can go, seems to render the supposition not improbable.

But in the present case, one principal cause without doubt was the patient's laborious employment, under a burning sun. With the *temperature* of a tropical climate, the *diseases* incident to such a climate were induced. I have already stated the rare coincidence of *two* patients, with their jaws locked, presenting themselves in close succession at the Dispensary; and in the course of a few days afterwards, a *third* very severe case of trismus occurred to one of my colleagues. In this case also there was found an old wound on one ancle.

Here, however, I should mention one symptom, which is very generally described as occurring in *either* species of tetanus, and in fact constituting one of its most distressing and dangerous concomitants, the *pain under the ensiform cartilage*; but which has not been particularly noticed in the present instance. 'Tis true *all* the muscles of the back and belly were the parts the most severely affected, from first to last; but certainly the patient never did complain of *more pain at the pit of the stomach* than in any other part of the abdomen. It was almost constantly referred to the *lower* insertions of the muscles, where, indeed, it was most distressing; and the muscles were drawn into such knots, that my assistant, on first examining the patient, as he sat with his thighs and trunk drawn towards each other, mistook one of them for a bubo.

But is this pain under the ensiform cartilage essential to the definition of genuine tetanus? Or rather, is it not observed more particularly when the disease has *existed for some time*, and when considerable quantities of *opium* have been taken? Or is it improbable that, in the present instance, it may have *been warded off* by the early exhibition of purgatives? These are questions which I confess myself not competent to solve. But this I know, that in *gastrodynia*, very acute spasmodic pain, shooting from the scrobiculus cordis to the spine, will almost infallibly yield to brisk purgatives; whereas opium will not only often *fail* to afford more than the most momentary relief, but will sometimes *even bring it on*.

My attention was forcibly drawn to this fact by two very striking cases, so long ago as the year 1793-4. It was not till after being completely baffled, so long as I trusted to what are called antispasmodics, and till after repeated observation of the relief afforded by purgatives, that my eyes were opened, so that I could see that every remission of the latter was followed by an exacerbation of the symptoms.

One of these cases, more especially, I always look back to, as the great mark from which my subsequent views and practice took their direction; and later experience has so far confirmed the impression made by this first lesson, that if there be any point in medicine on which, after having been engaged in Dispensary practice for near sixteen years, I have arrived at any certain conclusion, it is this, that in gastrodynia, and many other spasmodic affections, brisk purgatives will be found incomparably better *antispasmodics* than any of that tribe to which this epithet is usually applied. I believe, too, that their operation is *strictly* antispasmodic—that their *first* effect is to supersede the spasmodic action; for I have often known complete relief to be obtained *before* a stool was procured; insomuch, that I have more than once been asked by patients if I had not given them laudanum.

Such having long been my general views, it may readily be conceived what pleasure I derived from the first perusal of Dr Hamilton's valuable work. The steady light which he threw on the subject, enabled me to go on boldly in a path in which I had hitherto proceeded with timid steps, and as it were in the dark; and I am persuaded, that whoever will but give his practice a *full trial* in any of the cases for which he has recommended it, will be satisfied that he advances nothing for which he is not warranted by facts. His proposal for attempting the cure of tetanus by purgatives struck me immediately, as promising so much more favourably than any other plan of treatment I had before heard of, that I determined to give it a trial, if ever I should have an opportunity. But before any such opportunity occurred to myself, I saw it succeed completely in a case of trismus, under the direction of one of my colleagues; and that, in the present instance, the cure must be ascribed to the purgatives, either wholly or in a great measure, seems incontrovertible, not only from the final result, but from the exacerbations consequent to every relaxation of the plan. I am now inclined to think, moreover, that the more drastic purges were laid aside for no sufficient reason, and that, had they been continued in moderate quantity, the patient's convalescence would have been more rapid. By the report of the 27th, he was himself of the same opinion; and indeed the effect of half of a powder, and one dose of the mixture, was, as it is stated, truly surprising; showing, at the same time, how much the bowels had recovered of their natural susceptibility since the time when it required so much stronger doses to produce the same effect. It seems further evident, that the relief was not always in proportion to the quantity of even solid feces evacuated. The more active purges appear literally to have possessed antispasmodic virtues more than the pills.

The *quantity* of medicine taken, from first to last, is certainly very large, amounting, as far as can be ascertained, for the first twenty-five days, to calomel, gr. 320; scammony, gr. 340; gamboge, gr. 126; powder of jalap, ℥v. and ʒvii ss.; infusion of senna, with tincture, ℔x⅔; colocynth pill ℥i ss. and gr. 45; of which the *greatest part was taken within the first week*, namely, calomel, 280; scammony, 260; gamboge, 110; jalap, ℥iii, gr. x. infusion ℔5⅙. The quantity given in little more than forty-eight hours, from the morning of the 17th, is perhaps unprecedented in this country: amounting to—scammony, gr. 210; gamboge, 89; jalap, ℥i. and ℈iv.; infusion, ℔2¼; calomel, gr. 80;—and all this without causing either sickness or griping, but, on the contrary, with the most decided benefit.

Some of my friends have found great difficulty in believing that the whole quantity was *fairly taken*; but I can assure them there is little or no room for doubt. Several of the *strongest* doses I gave to the patient myself; and very frequently, during the whole course of the disease, the medicine was taken in the presence of Mr Bridge or me; and from the eager desire of the patient and his attendants to comply with all my directions, I have the fullest confidence in their reports of what took place in our absence. I was fearful indeed lest the distress he experienced in swallowing a dose of the mixture, on the evening of July 15th, should have deterred him from attempting it again; but his resolution was not to be shaken.

And, after all, it should be recollected, that it is not of *purgatives* alone that such extraordinary doses are required to produce any sensible effect in tetanus: where *opium* is the remedy relied on, the extent to which it is sometimes pushed beyond the limits of a common dose, is equally, or more enormous. Dr Currie, in the case of Gardner, gave ℥viii. of the tincture in about fifty hours; of which not less than ℥v.ss. were given in the last twenty-six hours!!

Neither is tetanus the only disorder in which there is considerable insensibility to ordinary stimuli. Last spring I had under my care a case of hysterical religious mania, where the patient, a young woman, took for many days together about ℔i. of the above mixture, and generally with some addition of calomel, scammony, gamboge, or cathartic extract, which produced seldom more than one stool. This patient completely recovered; and I have not heard that she has ever had another attack. In chorea, too, children will sometimes take very large quantities of purgatives, with little effect. In short, if a remedy be indicated at all, surely the *dose* should be regulated, not merely by weight and measure, but by the effect: and where there is such a strong concatenation of morbid actions as in tetanus, it might perhaps have been expected *à priori*, as it has proved in fact, that nothing but the most active purges, in large doses, and frequently repeated, would avail to break the train.

Here, however, I would once more observe, that, though in the present case the tetanic affection was remarkably severe and general, I am not sure that it ought to be referred to the *traumatic* species; neither dare I flatter myself that, in this species, the same treatment would prove equally successful. But, should a less doubtful case occur to me, bearing in mind the frequent failure of every other known plan, and the fortunate issue of this, I should think myself justified in giving it the same full trial; and the more so, from the following circumstance—In the course of my attendance on a Dispensary patient, in February 1808, I happened one day to notice that the mother had her whole left arm enveloped in flannel; and, on inquiring the cause, was informed, that some weeks ago one of her fingers had been severely cut with a potsherd; and that her arm had become very painful within the last day or two. On examining the finger, I found an old deep wound, *without inflammation;* there was no *swelling* of the arm, but great pain and stiffness, extending to the shoulder and back of the neck. I then inquired whether she had any difficulty in opening her mouth, and, after making several trials, she said she *thought she had.*

Her rest had been much broken, by a long and constant attendance on her daughter; she was costive and subject to flatulence. I immediately ordered six doses of calomel gr. v. jalap gr. x. one to be taken every four hours, till the bowels were moved. She took three doses the first day, and one each of the three following days. The stools were dark and thin; and, by the time she had finished her powders, the pain and stiffness had quite left her. No dressing but the former salve was *then* applied to the wound: *afterwards* she used a poultice, and it soon healed. Possibly the difficulty of opening her mouth may have been more imaginary than real, in this case; but if it was not incipient traumatic tetanus, *what else* was it? or what would it have proved if I had given opiates instead of purgatives? At any rate, it is a fact of some importance, that such symptoms should have disappeared, when no other means were used for their removal, than the exhibition of a few brisk purges.

With respect to the other remedies employed in the case of Gaskell, I have not many remarks to make. The whole quantity of opium, taken *internally*, was gtt. xl. of the tincture on the 15th, and gtt. lx. on the 16th; and so far from answering any good end, it seems manifestly to have *prevented* sleep, as well as to have *impeded* the operation of the purgatives. But, on the other hand, the *external* use of opium appears to have been beneficial throughout the whole course of the disease, more especially in the latter stages.

A medical friend has suggested, that possibly the same good effects might have resulted from the same degree of friction with *camphorated oil*, or even with simple oil; and certainly the quantity used in 17 days, from the 14th to the 31st (being only ℥vi. of opium, ℥ii. of the tincture), appears very inconsiderable, when compared with that which Dr Currie's patient took *internally* within fifty hours!

Still I am inclined to believe, that the relief which the patient always experienced from the friction, was owing to the opium; and, were such another case to occur, I think I should employ it to a much greater extent, suspended in oil, with a large proportion of camphor: perhaps the addition of tinct. cantharidum might be useful, as recommended by Dr Bardsley for rheumatic pains.

The quantity of *wine* used was also very moderate: when the symptoms were the most urgent, the patient could not take more than a bottle in twenty-four hours; and even this seemed to affect his head; but the weather was intensely hot. The whole quantity taken during the cure, was only thirteen bottles, yet it always seemed to refresh him, and particularly to promote sleep. Is it allowable to suppose that, among other good effects of purgatives in tetanus, they render the system capable of being affected by comparatively small doses of opium used externally, and of *wine*, just as mercury is known to favour the operation of diuretics?

The *cold affusion* appeared, at first, to be eminently useful, but afterwards hurtful. I suspect that this difference was owing principally to the *larger quantity* of water used in the latter applications, to which I was led, by a case in the Edinburgh Medical Journal for January 1808, stated as having been cured by this plan pushed *ad diliquium*. I remember, too, that my patient was in a state of perspiration at the time when he underwent the last affusion. It is also noted in the report, that his mouth was sore; but I am not sure that the perspiration was more than it had been on many former occasions; for it was almost constant: and again, the patient, who is said to have been cured by it, was *under a slight salivation*.

Neither the *hot* nor the *cold bath* were ever tried, though, from the success with which Dr Currie employed it in idiopathic tetanus, I should have chosen it in preference, had it been practicable.

The *warm* bath was, of course, not thought expedient, so long as the *cold* affusion seemed to be of use; and this was not ordered to be discontinued till the morning of the 16th.

I should have been very thankful for an opportunity to try it *afterwards*; and, notwithstanding the difficulty which must have been experienced in accomplishing it for so tall a man, labouring under such a disease, in a small cottage, I had determined, on the 17th, to make the attempt; but the symptoms having appeared towards evening to be rather stationary, or giving way, I concluded to wait the operation of the purgatives.

Among those medical gentlemen, in this town, who have had the greatest experience in the treatment of traumatic tetanus, there seems to be a very general conviction of the futility of all kinds of applications to the wound. I was induced to recommend the caustic, because it appeared to have been useful in a very anomalous case which occurred to me at Kendal, in the year 1798. The patient, an athletic young man, laboured under symptoms which seemed, at different times, to partake of the several characters of trismus, hydrophobia, and catalepsy; he had been well purged and blistered, by my friend, Mr Harrison, before I saw him. On examination I found the mark of an old contused wound above one of the inner ancles, which had been for some time healed; but on pressing the cicatrix, the affection

tion of the throat was immediately aggravated. I therefore advised, that a caustic should be applied. What share it had in the cure I will not say; but the patient recovered very speedily; and the other remedies prescribed were very insignificant. Still I think it very doubtful whether it contributed at all to the cure in the present instance or not; for in the case of trismus which occurred to one of my colleagues, I believe the commonest dressings only were applied to the wound. I should not, however, think it prudent to omit a caustic, if ever I should have to treat an unquestionable case of traumatic tetanus.

It does not appear that the blister afforded any considerable relief for the pain in the iliac region: nor was I much surprised: for though it seemed external, I always regard it as sympathetic, and thought it would be best attacked through the medium of the bowels; and this opinion seems sufficiently confirmed, by the reports of July 28th and August first.

The *fomentations* appear to have had a better effect; and I regret that I had not recourse to them sooner: perhaps they would have proved sill more beneficial, if a decoction of hops or poppy-heads had been employed. But I will conclude with one general remark, that though there are several auxiliaries, of which I should avail myself more freely, if the case were to occur again; yet there is, at least, this satisfaction to be derived from the circumstance of the treatment having been so simple, that less doubt is left as to the *means* by which the cure was really effected. And, when the violence of the symptoms in the early stages is recollected, I think it will be allowed, that the recovery was, on the whole, as rapid as could have been expected.

V.

Observations on the different Methods recommended for Detecting minute Portions of Arsenic. By John Bostock, M. D. Read before the Liverpool Medical Society.

The great importance of being able to detect small quantities of arsenic, in cases where there is reason to suspect that it has been employed with the intention of destroying life, is too obvious to be insisted on. We accordingly find, in most systems of chemistry, that directions are given for the application of those tests which afford the most decisive indications of its presence; and it is generally admitted, that these directions are of such a kind, that where the substance to be examined can be procured in sufficient quantity, and where the operator is sufficiently skilful in his manipulations, the existence of arsenic may be satisfactorily established. It, however, frequently happens, that the circumstances mentioned above do not exist, but that the substance to be examined is only a minute residue of what had been employed; or, that it is to be searched for among the contents of the stomach; or, that the person to whose lot it falls to undertake the examination, is previously inexperienced in chemical experiments, and unacquainted with the appearances which will be produced by his processes. These considerations have induced me to lay before the Society the result of some observations that I have made on the subject. I propose to describe the processes so minutely, that a person who had never before seen them performed, or who was not in the habit of experimenting, might have some idea of the appearances which would be presented to him; and I shall point out what quantities of arsenic we may expect to be able to discover by the application of the different tests.

The latest publications which contain an account of the methods for detecting arsenic, are, Mr Murray's System of Chemistry, and the Dictionary of Chemistry by the Messrs Aikins. From these valuable works we learn, that there are five processes that may be employed for this purpose; the precipitation of the arsenic, from any fluid in which it is dissolved, by an alkaline hydro-sulphuret; its precipitation by the sulphate of copper; the reduction of the oxide into the metallic state, by heating it with extraneous substances in a glass tube; the effect which arsenic has in whitening copper, when heated in contact with it; and the peculiar odour which it exhales when evaporated from a heated surface. I shall make a few observations upon each of these processes, bearing in mind the object which induced me to enter upon the investigation, which is not to give information to the scientific chemist, but to assist those who may be under the necessity of stating an opinion upon subjects of this nature, although not in the habit of performing chemical experiments.

When only a minute quantity of an alkaline hydro-sulphuret is added to a solution of the white oxide of arsenic, a precipitate is instantly formed of a bright orange colour. One drachm of water, in which ten drops of a strong solution of the sulphuret of potash had been diffused, had four drops of a saturated arsenical solution added; immediately an orange-coloured cream formed itself at the surface of the fluid, which, in the course of twenty-four hours, had nearly subsided, forming a precipitate of the same colour at the bottom of the glass, and leaving the sides of the vessel slightly coated with a similar substance: the fluid was left transparent. The alkaline hydro-sulphurets are also precipitated by acids, and by other metallic salts, with results more or less resembling that produced by arsenic. To a similar solution of sulphureted hydrogen, one drop of sulphuric acid was added; the whole assumed a light milky appearance; and, after some time, a delicate yellow precipitate rose to the surface of the fluid, and coated the sides of the glass. The same experiment was made with a saturated solution of tartarized antimony: it required a larger quantity of the solution to produce the same effect; but, by the addition of ten drops, the appearances that presented themselves were very similar to those where the arsenical solution had been employed; the precipitate rising to the surface, and assuming a deep orange hue. The same experiment was performed with the nitrate of mercury; but the result was here considerably different: patches of a reddish precipitate were produced, which sunk irregularly; then the whole fluid became opake, and of a dirty brown colour, which was gradually converted to a dull grey. In twenty-four hours there was a copious grey precipitate at the bottom of the glass, while the fluid was left transparent. With the oxygenated muriate of mercury, an irregular copious precipitate was produced, of a dull olive colour, which, after some time, became black, leaving the fluid of a dirty yellow. With the muriate of tin, a copious, dense, brick-coloured precipitate was instantly thrown down, which in twenty-four hours was converted into a muddy brown, leaving the fluid transparent. With the nitro-muriate of platina, a copious, clay-coloured precipitate was produced, which, after some time, subsided, and left the fluid transparent, and of a bright reddish-brown hue. Among these precipitates, which are all that are described as being in any degree similar to the hydro-sulphuret of arsenic, the greatest part are so obviously different, as not to afford any probability of mistake: The only two which bear a close resemblance to it, are, the hydro-sulphuret of antimony, and the precipitate of sulphur, which is separated from the fluid by the addition of an acid. In this latter case, however, a sufficiently clear distinction is afforded by the colour of the substances; the sulphur preserving its peculiar light yellow, while the arsenic presents a deep shade of orange. The difficulty of discrimination will only rest between the hydro-sulphurets of antimony and of arsenic. Both the colour of the precipitate, and the mode of its formation, are so similar, that, when the comparative experiment was made upon the two substances,

stances, in contiguous glasses, it was difficult to discover any visible mark of distinction. The arsenic is indeed more easily affected by this process; but this being a difference in the *degree* of the effect, is of no use where we are examining the nature of an unknown compound. Combined with the other processes for detecting arsenic, the effect of sulphureted hydrogen may be of some value, although it seems that it is not sufficiently discriminative to be depended upon alone. It discovers the presence of arsenic with great delicacy;—sixty grains of water, to which one grain only of the liquid sulphuret had been added, was almost instantly rendered completely opake by 1-80th of a grain of the white oxide of arsenic in solution.

The next test of arsenic, on which I propose to remark, is the one that was discovered by Scheele; the beautiful green precipitate that is produced by the addition of the sulphate of copper to a mixed solution of the white oxide of arsenic and potash. The green precipitate, formed by this process, so decidedly indicates the presence of arsenic, that I thought it desirable to ascertain, as exactly as possible, what were the best proportions in which the ingredients should be employed, and in what way they should be mixed, so as to exhibit the effect in the most obvious manner. After a number of trials, in which the substances were employed in various quantities, and under different circumstances, I am disposed to recommend, that the proportions of the oxide of arsenic, the potash, and the sulphate of copper, should be to each other as the numbers one, three, and five, respectively. For instance, if one grain of arsenic, and three grains of potash, be dissolved in two drachms of water, and, in another equal quantity of water five grains of the sulphate be dissolved, we have two solutions, which are transparent and nearly colourless; but, upon mixing them together, the whole is converted into the most beautiful grass green, from which a copious precipitate of the same hue slowly subsides, leaving the supernatent fluid nearly without colour. If the same materials are employed in the same manner, but without the arsenic, a delicate sky-blue is formed, which is so decidedly different from the former colour, as not to admit of the possibility of error. The proportion of potash and of arsenic which I have recommended, although different from that pointed out by Scheele, is the one directed by Mr Murray, and certainly that which I have found to afford the most decisive results. In Aikins' Dictionary we are ordered to use "an extremely small quantity" of potash; and we are told that "a yellowish green precipitate" will be produced. From my own experience, I feel myself warranted to advise the addition of the larger quantity stated above, the effect of which will be a green, without any shade of yellow. In order to discover the degree of minuteness to which this test is capable of being carried, 1-40th of a grain of the white oxide of arsenic was added to sixty grains of water, forming 1-2400 of the weight of the fluid; the proper proportion of potash and the sulphate of copper was added; and, by comparing the effect of these substances, with similar quantities of potash and sulphate of copper, without the arsenic, the green was perfectly obvious. In speaking of this methed of detecting arsenic, it is necessary to observe, that we must always view the fluid by reflected, and not by transmitted light, and that when we come to minute experiments, they should be examined by day-light. By the light of a candle, it is difficult to distinguish between delicate shades of blue and green; and a weak solution of the sulphate of copper, without any addition, when held between the eye and the window, frequently presents a greenish tinge. Coloured fluids are best seen by placing a sheet of white paper behind the glasses in which they are contained. To those who are not in the habit of performing chemical experiments, it may not be unnecessary to mention, that the correct method of proceeding, is to begin by forming solutions of the different materials of a known strength. They are the most convenient for the purposes of calculation, when composed of one part of the solid to ten parts by weight of water, or if more water be required, to some multiple of ten, so that ten grains of the solution, or some higher decimal number, may contain exactly one grain of the substance dissolved.

The third method of detecting arsenic, is the reduction of its oxide into the metallic state, by heating it together with an inflammable body in a glass tube. The directions for performing this experiment are, that we mix the arsenic, or the suspected powder, with black flax or pounded charcoal, and put the mixture into a glass tube closed at one end, and coated with clay and sand, the other end being stopped with a plug of clay. The tube is then to be exposed to a red heat, when the arsenic will be found in the metallic state, encrusting the inside of the tube. The process seems a simple one; and it may be considered as perfectly decisive of the presence of arsenic, when the metallic coating can be observed; but there are some circumstances attending it which make it less generally applicable than might at first view be supposed. To a chemist, with a well furnished laboratory, it may seem to be starting an imaginary objection, to speak of the difficulty which there may be in procuring a glass tube of the proper size, and with a closed end; but such an occurrence may not unfrequently happen to those who are not in the habit of performing experiments; and I may add, that I apprehend few persons will, for the first time, attempt the process, who will not find themselves considerably embarrassed in the execution of it. Some of the difficulty I shall endeavour to remove, by giving a minute account nf the different parts of the operation, prefacing my remarks by observing, that here, as well as in other parts of this paper, I do not profess to write for the scientific chemist. The most convenient size of the tube is about 1-4th inch, or rather less, in diameter, and about eight inches in length. In order to close the tube, where a blow-pipe is not to be procured (which we may suppose will often be the case) the end is to be placed in a common fire until it is completely softened, and a pair of small tongs being at the same time made red hot, the tube is to be withdrawn from the fire, and the heated end pinched by the tongs, and at the same time bent up at an acute angle, so as to be brought parallel to the body of the tube. The tube is then to be heated a second time, and being again firmly pinched by the hot tongs, the end will be found to be completely impervious. Mr Murray recommends that the tube be coated with clay and sand. It may be proper to mention, that this part of the process should not be omitted; and that the best proportions for the coating are, one part of common pipe-clay to three parts of fine sand, which are to be well kneaded together, and reduced to such a state of tenacity, that the lute will readily adhere to the tube, and its different parts will unite without forming a visible seam. The black flax, which is mentioned by Mr Murray, is often not to be procured; but powdered charcoal answers the same purpose. With respect to the quantity of the inflammable material, I think that considerably less than this author advises is more convenient; for, when too much is employed, it requires a greater degree of heat, and a much longer application of it. In Aikins' Dictionary we are directed to add "a little powdered charcoal." I believe that the effect will be best produced by using about equal bulks of the arsenic and charcoal. In order to get the materials into the tube, a wooden rammer must be formed, by which they may be pressed down to the closed end. A tube 1-4th of an inch in diameter, coated with a thin covering of clay and sand, requires to be kept at least 1-4th of an hour in a well burnt coal fire, in order to have the full effect produced. This method of detecting arsenic has been esteemed the most decisive; but it is by no means the most minute of the tests: when less than 3-4ths of a grain was employed, I could not say that the metallic coating was clearly perceptible. From a remark that is made by Dr Black, it would appear, that one grain was the smallest quantity which he thought capable of detection by this process.[*]

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[*] Black's Lectures, v. ii. p. 430.

The property which arsenic possesses of uniting with copper, and forming a white compound, is the next method that has been employed to detect the presence of the former substance. To produce the effect, we are directed to place the arsenic, mixed with some carbonaceous matter, between two plates of polished copper; and having bound them together by a wire, to expose them for some time to a red heat, when the part of the copper that is in contact with the arsenic will be found to have received a permanent white stain. The Messrs Aikins direct the suspected powder to be mixed with a little charcoal; while Mr Murray recommends it to be made into a paste with the black flax and oil. I should here, for the same reason as before, prefer the charcoal to the black flax; but I think the oil is certainly a useful addition. When the dry charcoal is employed, the powder is in danger of escaping from between the plates, unless they be very closely pressed together; and when this is the case, a considerable part of it will be found unconsumed after they have been heated. With respect to the proportion of the ingredients to be employed, I have found the process to succeed the best, when to one grain of the arsenic we add about one half grain of powdered charcoal, and about two drops of oil. This property of whitening copper is justly regarded as one of the most decisive tests of the presence of arsenic; but there are some circumstances attending it, which may deserve to be pointed out to the inexperienced. It may be necessary, in the first place, to describe the phenomena that take place when copper is heated according to the process that is described above, but without the addition of the arsenic. Two copper disks, of nearly an inch and a half in diameter, scoured bright with sand, had one grain of powdered charcoal, made into a paste with oil, placed between them: they were bound together with an iron wire, and then kept red hot for ten minutes. When they were withdrawn from the fire, the metal was found to have lost its former appearance, and to have acquired the dull white colour of lead or zinc. The insides of the disks were found to present the same whitish appearance, except on the spot where the charcoal was placed, a small part of which still remained unconsumed. As the disks cooled, the whitish matter which covered them began to separate, and fly off with some force, in the form of small scales, leaving a clean surface of the proper copper colour. In a few minutes, the greatest part of the scales were removed, except on the inside, near where the charcoal had been placed; and here the disks still retained their grey colour. The charcoal was rubbed off, and the surface below it was found smooth and polished: It had acquired a light colour, resembling that of brass; and near the centre there was a small spot, which approached to a steel grey. This appearance still continued, after it had been rubbed with fine sand. The above description of the changes which the disks experience, by being heated with a part of their surface in contact with an inflammable body, will probably impress the Society with the same idea, that, I confess, it gave to myself; that if I had performed this experiment upon a substance which was suspected to contain arsenic, and had not been aware of the appearance that I was to meet with, I should have conceived that I had detected its presence. Upon repeating the process, in precisely a similar manner, except that one grain of arsenic was added to the charcoal, the oxidation of the copper took place as before, and a small part of the charcoal remained unconsumed; but upon rubbing it, the white stain was perfectly visible. However, when these disks were compared with those in which the former experiment had been made, the difference between them seemed more in *degree* than in *kind*; so that I should not choose to decide upon the presence of arsenic as indicated by this test, unless the result was more obvious than it must be expected to be, when it exists only in small quantity. It may be proper to observe, that copper whitened in this manner by arsenic, is very subject to tarnish; in three days I could with difficulty distinguish which of the disks had been employed in these two experiments.

With respect to the fifth method that has been pointed out for detecting arsenic, by exposing it to a high temperature, and observing the white smoke and peculiar odour which arise from it in this situation, I shall not think it necessary to make many remarks. It is certainly not much to be depended upon; unless the arsenic is in considerable quantity, the effects are not sufficiently perceptible; and if it be mixed with either an animal or a vegetable substance, the smoke and smell arising from these bodies, when heated, will altogether prevent us from detecting the peculiar properties of the arsenic. When a quantity of arsenic is mixed with an equal weight of flour, and placed upon iron at a low red heat, so as not to cause the flour to inflame, the suffocating smoke that arises from the flour can alone be perceived; nor is it possible to discover that any thing has been mixed with it. With respect to the degree of heat, at which the characteristic odour of arsenic is most readily discovered, by having a bar of iron heated red hot at one end, and becoming gradually cooler towards the other extremity, I thought that the effect was the most perceptible in that part which was just visibly red in bright day-light.

After this review of the different processes for detecting arsenic, it remains for us to determine on which of them the greatest confidence may be placed. I have no hesitation in giving it as my opinion, that the most convenient, the most delicate, and the most decisive process, is the one in which the green precipitate is formed by the addition of the sulphate of copper. The arsenic may be detected with certainty in a very minute quantity, as well in a fluid as in a solid state; no apparatus is requisite, nor is there any skill required on the part of the operator. When we are called upon, in a judicial investigation, to ascertain whether arsenic has been employed, we are generally obliged to perform our experiments on a small quantity of the substance which may be accidentally left in the cup or bottle, or to search for it among the contents of the stomach. In this latter case, particularly, it is only in minute quantity that we can expect to find it; and in order to separate it from the mass in which it is contained, we must have recourse to the solvent power of hot water.

There are two precautions which I should strongly recommend to every person who may be called upon to search for arsenic in a suspected substance. The first is, that in every experiment which is performed upon the unknown substance, a corresponding one should be made with ingredients of a known composition. If, for example, the test of the sulphate of copper be applied to a suspected fluid, the operator should at the same time add the potash and sulphate of copper to a portion of pure water, and afterwards he should repeat the process with the potash, sulphate of copper, and a given quantity of an arsenical solution. The effect of the re-agents will thus become familiar to him both with and without the arsenic; and he will then be enabled, with much more confidence, to state his opinion respecting the fluid under consideration. The second recommendation which I shall beg leave to offer, is, that the examination be never entered upon, until the substances that are intended to be employed as tests, and the necessary apparatus, are all in readiness, and all in a perfect state. In experiments of this kind, there should be *no allowances* made; and as it often happens that the quantity of the matter to be operated upon is small, none of it ought to be wasted upon imperfect trials.

Liverpool,
Feb. 10*th* 1809.

VI.

VI.

Case in which the Operation of tying the Vena Saphena, for the cure of an Old Ulcer in the Leg, terminated fatally. By HENRY OLDKNOW, Esq. Surgeon, Nottingham.

I BEG leave to offer, through the medium of your Journal, the following unfortunate result, from a case in which the saphena vein was tied, for a cure of a long standing ulcer of the lower extremity; and I make this communication to the public, because a correspondent in your last October number has spoken of the success of the operation, in a case which has lately occurred to him, and wherein he wishes to know the experience of other practitioners. At the same time, allow me to express a wish, that the reports of unsuccessful cases were more frequently made, as no doubt they do sometimes occur; for I think they would operate as much to the advantage of the healing art, and of our professional brethren, as the relation of such very extraordinary cases of successful practice, which we now and then meet with in some periodical publications. A young man (about twenty-three years of age) of plethoric habit, had been troubled, for the last two or three years, with painful ulcers about the inner ankle of the right leg, which repeatedly healed, and broke out again, so as to prevent, in a great measure, his attendance to business; he therefore became desirous, on my representation, of having the saphena vein tied, it being varicose to within a hand's-breadth of the knee. The operation was performed in the following manner. An incision three quarters of an inch long, and about one inch and a half above the distension, was made through the skin immediately over the vein, and in the direction of its course. The cellular substance was then carefully divided, the vein lying deeper than usual, until its upper surface was completely exposed. Its accompanying nerve was cautiously avoided, being distinctly seen about four lines distant from it, and nearer to the spine of the tibia. A probe, armed with a double ligature, was passed under the vein, taking care to include nothing with it, it being cleanly dissected from the surrounding cellular membrane, upwards and downwards, as far as the extent of the first incision, and then tied. The portion of vein between the two ligatures being afterwards cut out, the lips of the wound were brought together by a suture and adhesive plaster, with a view of healing it by the first intention. My reason for using a suture, was to prevent the edges of the wound from curling too much inwards, (a circumstance I have seen often occur, when the sticking-plaster alone is used,) thereby preventing its healing, or be the means of forming an irregular cicatrix. The patient was then put to bed, and directed to use a cold embrocation. On the second day he took some opening mixture. Third day, the wound was dressed, and appeared wholly united, except where the ligatures came out. The suture was cut out, and fresh adhesive plaster applied. On this day he complained of pain in the lower part of the limb, that is, from the lowermost ligature, along the vein, down the foot; to use his own expression, as if the blood in the vein was endeavouring to overcome the obstruction caused by the ligature. This sensation was, however, entirely removed, by applying a bandage moderately tight, from the toes, upwards. Fifth day, there appeared a little erythematous blush about the wound; he had a trifling epistaxis; and I thought proper to take from him sixteen ounces of blood, which was not inflamed: the purging mixture was repeated. Sixth day, complained of a little pain on the inner-side of the knee, in the course of the vein; but there was no external inflammation at that part: the lips of the wound began to separate. In the evening, he was suddenly seized with a violent rigor, succeeded by a hot fit, and symptoms of great vascular action, and some tendency to delirium. Pulse 130, hard and full; therefore sixteen ounces of blood were taken from the arm; it gave instantaneous relief, and was followed by the sweating stage, which continued several hours, and was succeeded by a state of quietude, soon, however, interrupted by a recurrence of the same train of violent symptoms, at first about once in twenty-four hours, but gradually increasing in frequency, and diminishing in strength, until nature became exhausted, death closing the scene twenty-two days from the operation. For the first four or five days after the rigor, the wound discharged pretty freely; and by making strong pressure about the knee, a little matter was forced from it. The inflammation crept gradually up the vein, which was evident from its peculiar cord-like feel, and from giving pain on pressure, until it reached the groin, the inferior part getting well as the superior became bad, so that the wound was nearly healed before death, the ligatures having separated about the fourteenth day. There was no tumefaction of the cellular membrane, no enlargement of the glands in the groin, no superficial inflammation on the thigh. There was, it is true, a slight redness of the skin when the poultice was removed, (for the thigh, along the course of the vein was covered with cold poultice), which entirely vanished on exposure to the air. The medical treatment was strictly antiphlogistic; the patient was repeatedly bled, and with apparent relief every time; the blood being extremely sizy ever after the first rigor. Two days, however, previous to his death, the vital principle was so exhausted as to need the use of cordials.

This is the result of an operation, which, I believe, is generally considered as a very trifling one, and not endangering the life of the patient. Judge then my mortification at this unexpected termination. On inquiry, however, I find another fatal case has occurred in this neighbourhood, differing in its symptoms from the one I have related. Large collections of matter formed in the cellular membrane, along the course of the vein, as far as the groin; and the patient died two months after the operation, the fever assuming the form of an intermittent. In this case, the incision was made transversely, and the vein was tied by a single ligature, as mentioned by your correspondent. Many are the cases, where much inflammation has followed the operation; and no doubt many persons undergo the operation without any such occurrences; but, even then, it is a question whether it be attended with that permanent advantage we are led to expect from it. Ought we, therefore, in any such cases, to run the risk of the danger incurred by the operation? Mr Home, in his book on ulcers, mentions symptoms of inflammation having taken place in a few instances; but he is more inclined to attribute them to the unhealthiness of large hospitals, than to any immediate effect of the operation; and in my opinion, his book is calculated to impress the minds of medical men with too little importance in regard to the operation, and its consequences. In the above case, you will perceive the inflammation was confined to the vein itself. Are we then, with Mr Hunter, to attribute the death of the patient to the inflammation extending to the cavities of the heart, or to an inflammatory exhalation from the inner surface of the vein, which, being carried into the circulation, acts as a constant source of irritation to the heart and brain, and thus produces the disease? I think, at least, such an opinion is not irrational, knowing, as we do, the deleterious effects which all the animal secretions, when injected into the veins, have upon the system.

Nottingham, Feb. 11. 1809.

VII.

A Case of Flooding betwixt the seventh and eighth Month of Pregnancy, occasioned by the attachment of the Placenta over the Mouth of the Womb, where the Woman was obliged to be delivered without Natural Pains, and both Mother and Child recovered. By William Robertson, Surgeon, Kelso.

Mrs H. æt. 37, mother to five children, of a florid complexion and stout make, and, to appearance, of a healthy constitution, but of late subject to nervous affections. These, she alleged to have been brought on by two miscarriages, which happened in the course of a year and a half; the first, in the third month of pregnancy; and the last, on which occasion I attended her, in the fourth. At that time, she was much reduced by flooding. I gave her particular directions how to conduct herself, if ever she should become pregnant again; and enjoined her, in the strongest manner, to observe them. In a few months she was under the necessity of paying attention to my directions, which she did with such success, that she arrived at seven months and two weeks; when, thinking herself out of all danger, she began to use more freedom; but late on the evening of the 11th of April last, she was seized with a flooding, after a fatiguing walk. I was sent for; but, being at the distance of a few miles in the country, before I reached her the flooding was somewhat abated. Upon examining the cloths about her, I found she had lost a good deal of blood; her countenance was pale, and her mind much agitated; pulse slow, but equal. I immediately exposed her freely, and dashed cold water upon her buttocks, and applied cloths, wet with vinegar and water, to the small of the back and loins, and likewise to the pubes, changing them occasionally when they turned warm; and I gave her twenty drops of the acid elixir of vitriol, with ten drops of the tinctura opii, in a glass of cold water, and repeated it in the course of three hours, when the flooding entirely stopped. I staid with her till well on in the morning; but I represented to her husband, that she was in a very hazardous way, and that it would be necessary to have some person of experience to remain with her, as it was impossible for me to stay on account of my business. A midwife was sent for. Upon her arrival, I gave directions concerning the medicines and diet, and the other applications, if they should be necessary, and desired that I should be sent for with all possible despatch, if the flooding should appear any way alarming. Although she had lost a good deal of blood, her pulse was pretty regular and firm. As she was costive, a laxative injection, nearly cold, was administered to her in the easiest manner, which had a good effect.

I visited her the next day, and found that she had got some rest through the night, and had had no return of the flooding, except what merely soiled the clothes: she found herself so easy, that we ventured to shift and lay her comfortable. I left her in hopes that the natural pains might perhaps come on, and deliver her, as I entertained no hopes of her settling in any other way, from the numerous clots of blood which had come off.

On the evening of the 16th, I was sent for express. On my arrival, the midwife informed me that the flooding had returned with great violence on her getting up to make water; she had recourse to the means I had directed, by which it was checked; her countenance was now become pale, and her pulse a good deal weaker. I examined her, and found something, which I supposed was a clot of blood, depending from the os internum; but I did not choose to push my examination too far for fear of bringing on a return of the flooding. I staid with her all the night, with a determination to force the delivery if she should again be attacked. I gave her an anodyne draught; she passed a tolerable night, and was somewhat recruited in the morning. As she had got no passage in her bowels, since the operation of the injection, I gave her a small table spoonful of castor oil among a little gruel, and ordered it to be repeated every six hours, till it operated. The second dose had the desired effect. I left some of the pulvis stypt., desiring ten grains to be taken every three hours, when awake; but considering her in a very critical situation, I visited her in the evening, and carried along with me Dr Wilson, an old experienced practitioner in the obstetric art. I examined her again in his presence with a little more freedom, and found the os tincæ dilated to about the size of a shilling, and a substance depending from it like a polypus, harder in consistence than a clot of blood. Upon considering her situation, he was decidedly of opinion, that she could not bear the loss of much more blood; and that, if the flooding should return again, to any great degree, without pains, that the only chance she had for life was to force the delivery. Being costive, a little more of the castor oil was directed to be given in the same way as before; and the other directions were to be observed punctually.

I visited her again on the 20th, when the midwife informed me, that nothing material had happened, excepting some slight returns of the flooding, which had appeared every 48 hours; but some water had begun to come off that morning, which I was very glad to hear, and encouraged my patient very much, saying, that the pains I hoped would soon follow, and deliver her. Though very weak, I left her in good spirits; but my hopes were soon blasted; for I had got but very short way from the house, when an express was sent after me, to return as soon as possible, as the flooding was returned again with greater violence than ever, and that she was in a fainting-fit. I made all possible speed, and found her looking pale and ghastly, the blood flowing over the edge of the bed, and running upon the floor. I immediately prepared for delivery, by laying her on her left side, close to the side of the bed, putting a pillow between her knees, and pulling them up towards her belly: an assistant was seated in the bed before her, to keep her steady. I passed my right hand, with my fingers collected into a conical form, slowly through the vagina (previously well anointed with pomatum) till I reached the mouth of the womb, which I found dilated to the size of a penny piece, with the pendulous substance formerly mentioned occupying the whole of it. On getting two of my fingers introduced into the os internum, it felt hard round the edges, resembling a ring or pessary. I stretched it gradually till I got in my whole hand, passing it up that part of the uterus contiguous to the pubes, separating the placenta slowly, the blood flowing very profusely: but here I got considerably embarrassed; for the placenta was betwixt my hand and the child. Anxious to deliver her as soon as possible, expecting every moment that she was to expire under my hands, I made several efforts to come at the feet, but could not effect it. Though I regretted the loss of time much, I was under the necessity of withdrawing my right hand, and introducing my left, with which I succeeded in getting hold of a foot and turning the child, and bringing it down; then, searching for the other, I laid hold of it also. Having got them both without the os externum, I delivered the child; but not expecting any life, or that it was possible for it to live, I cut the navel-string, and laid it on the bed, directing the whole of my attention to the mother, who was in a fainting state. After getting the bandage put round her belly, and attempting to give her a little wine and water, the child began to breathe, and gave a faint cry. I requested the midwife to pay attention to it, and tie the navel-string, which was done. The placenta came off soon after the child. I examined it, and found the piece, which had felt like a clot of blood filling the os tincæ, must have been detached from the commencement of the flooding, as it was half putrid. The woman was in such a faintish state, that she could not be moved, though lying in a most uncomfortable situation; her pulse was so low and feeble, that it could be felt with difficulty. I got her to swallow a few tea-spoonfuls of thin breadberry, with wine in it, from time to time. After she had lain a few hours in this situation, I ventured to draw a clean blanket through below her. It being late in the evening, she got a gentle anodyne draught, by which she obtained some rest during the night, and was a little recruited in the morning. There was very little lochial discharge; and by giving her a proper nourishing diet, and keeping her bowels regular, she began to recover her strength gradually. Upon inspecting the child, though breathing, the possibility of its living was not to be expected. It was extremely small in size; the skin of its face, as well as of every other part of the body, was wrinkled, loose, of a dark, dunnish hue, and the perfect picture of starvation. I advised them to put it among wool or cotton, and to give it a little sugar and water, and afterwards a few tea-spoonfuls of thin breadberry occasionally as it could receive them. Next day, I found the mother as well as could be expected, but extremely weak; the child was still alive, and taking a little of the food directed. I proposed the making inquiry after a nurse, to try if it could suck, and, in the mean time, to give it some arrow-root, by way of support. On this it lived four days, when the mother felt symptoms as if milk was coming into her breasts, and the child was applied: at first, the milk was in very small quantities; but it gradually increased, till the child lived upon it alone. Its bowels, however, seemed to be very torpid, for it got no passage but by laxative medicines and injections. Those in common use, such as magnesia, rhubarb, manna, &c. had little effect; stronger ones were obliged to be had recourse to, such as castor oil, and an infusion of senna. It never began to thrive till its bowels became regular, which was about seven weeks after it was born. The mother is now quite healthy, and the child as lusty and thriving as if it had been born at the full time.

VIII.

VIII.

Case of Aneurism of the Femoral Artery. By David Hosack, M. D. Professor of Materia Medica and Botany in Columbia College, and one of the Surgeons of the Alms-House of the City of New-York.

John Spencer, a native of Germany, thirty years of age, came into the Alms-House about the 20th of March, on account of a tumor of his right thigh, attended with pain and lameness, by which he was rendered incapable of pursuing his ordinary occupation, that of an oysterman.

Upon inquiring into the history of his complaint, it appeared, that his disease came on spontaneously about the first of February last; that he had sustained no previous injury to which it could be ascribed, unless the circumstance of a waggon having passed over his thigh, about fourteen years ago, could be supposed to have had any agency in giving origin to his disease. The first symptom which he discovered of his complaint, was a small hard tumor about the middle of the thigh, which he perceived upon rising out of bed in the morning: in a few days, it evidently increased in size, and the pulsation became so considerable, that it was apparent to the bystanders. It then gave him no pain; but in about seven weeks from the time of its first appearance, the tumor became so large as to extend nearly to the knee, and almost as high as where the profunda leaves the femoral artery. It then produced a sense of numbness throughout the whole limb, and such a degree of pain in the part as deprived him of his rest. The tumor also had acquired such magnitude, that, on the 29th of March, the pulsation was only to be perceived by the most attentive examination, and then only by grasping the tumor with both hands. The tumor also, at that time, assumed a somewhat purple colour, and, in one part, it was much more elevated and elastic, and in some degree appeared as if the ancurismal sac would soon be ruptured. From its diffusing itself entirely around the thigh, there can be little doubt of a rupture of the coats of the artery. His health had become much impaired; his countenance pale; his pulse small and weak; and his extremities, excepting the part affected, much diminished in size; and his whole body considerably emaciated.

The nature of the disease being ascertained, and the tumor sensibly and daily increasing, a consultation was called the succeeding day, at which all present concurred in opinion, that the situation of the patient rendered it necessary that the operation should be performed as soon as possible. Accordingly, the following day, the 31st, was appointed for the operation. The patient's bowels were directed to be emptied by an injection, and afterwards an anodyne of one hundred drops of laudanum to be given him an hour before the time of operating.

In conducting the operation, my friend Dr Post, the professor of anatomy and surgery in Columbia College, gave me his assistance, by compressing the artery, as it passes under Poupart's ligament; for the small space between the tumor and the groin did not allow of the application of the tourniquet. An incision was then made through the integuments, about six inches in length, in the direction of the sartorius muscle, at its inner edge, beginning about two inches from the groin. The sheath, enclosing the muscle, was then divided, and the muscle pressed aside. I then slowly divided the cellular membrane (scarcely to be called fascia), covering and enclosing the vessels; and with my fingers readily detached the artery from the vein and anterior crural nerve, and passed the needle probe, with a strong double ligature, beneath it. The ligatures were then tied, leaving about an inch between th[illegible], and the artery divided between the ligatures; but the division of it was made nearest to the lowest ligature, with a view to prevent the accident that has sometimes occurred, of the ligature being thrown off by the force of the artery. On this account, particular attention was given to the manner of securing the artery. Great care was also taken not to separate it from its connexions, further than was absolutely necessary to pass the probe beneath it, and to apply the ligatures, lest any unnecessary separation should lessen the chance of union of the sides of the vessel before the ligatures might separate. In the hands of the English surgeons, it has, in several instances, occurred, especially in those cases where the artery was left undivided, that ulceration took place, and the ligatures separated before the sides of the vessel were united; in which case, the patient was destroyed by hemorrhage. But by cutting the artery between the ligatures, as recommended by Mr Abernethy and Mr John Bell, it retracts as after amputation; and its connexions being preserved, the union is as readily effected between the sides of the vessel in the one case as in the other. It may be proper here to remark, that the artery was secured about an inch above the tumor, which was left to be absorbed; and that the upper ligature was made so high, that there was probably little more than half an inch between it and the profunda. Another circumstance worthy of notice is, that the pulsations of the artery, near the tumor, were unusually feeble; whereas the other vessels beat with their usual force, as also did the femoral artery, where it passes Poupart's ligament.

The artery being secured, the sides of the wound were brought together, and retained, by strips of adhesive plaster, covered with lint and a light compress, and the whole supported by a flannel roller. The patient was then conveyed to his bed, and his limb placed in an easy relaxed posture, with a pillow underneath his thigh, to preserve it in that position. The next day, a great increase of heat was perceived about the wound; but the lower part of the limb was much colder than natural, and not the least pulsation was perceivable in any of the arteries below the tumor. The limb was then bathed with spirits, and wrapped in warm dry flannels, which were frequently renewed.

On the fifth day from the operation, the wound becoming somewhat offensive, the dressings were removed; when it was found that an adhesion had taken place the whole extent of the wound, excepting the part immediately adjacent to the ligatures. The limb was also considerably warmer than on the second or third day after the operation, but had not yet acquired its natural temperature. Having cleansed the parts, first with soap and water, and afterwards bathed them with spirits, the plasters and compress were renewed, and the roller applied as before. The wound was, from that time, dressed daily, and the whole limb washed with spirits. As early as the ninth day, the diminution of the tumor was apparent.

On the 12th of April, *i. e.* the 13th since the operation, the ligature came away; and on the 17th, a very feeble pulsation was perceived in the posterior tibial artery, and the limb was restored to its natural temperature. He was then put upon the use of the bark, and a nutritious diet. In a short time his general health was so much improved, that he walked about the house without the least pain or inconvenience. The tumor continued to decrease rapidly, and the wound healed without the least impediment of any sort. The tumor was still washed with spirits, and the roller applied as before, with the view to increase the tone of the parts, and to prevent the absorption of the contents of the tumor,

The 22d of June he called to see me, with the request to be discharged from the Alms-house, and to return to his business. He had entirely recovered his strength; the circulation appeared perfectly restored in the limb, and the tumor so inconsiderable, that, upon measuring the circumference of the thigh, at the part where the tumor had been most apparent, there was but one inch of difference between it and the corresponding part of the other limb. He was accordingly discharged, with the direction to lay aside the bandage, and daily, for some time, to bathe the part affected with cold water.

I saw him a few days ago in perfect health.

New-York, November 1st, 1808.

IX.

Observations on Anchylosis. By RICHARD CARMICHAEL, Esq. Surgeon, Dublin.

ANCHYLOSIS of the joints of the hands and feet, in diseases of those parts which must otherwise undergo a less favourable termination, is *perhaps* an occurrence overlooked by surgical writers, and *certainly* is not considered with that degree of attention its importance demands. The two following cases may be acceptable, as they elucidate the advantage of permitting the formation of that process, and the necessity of preventing any movement or exertion that could impede its progress, when more favourable expectations can no longer be indulged.

In the beginning of last winter I was called upon to see Captain B., formerly of the artillery, who suffered severely from a whitlow on the middle finger of his right hand. The disease was of the worst species, the matter being deeply seated, the finger tense and greatly swelled, and, though three weeks from its first attack, without any external sign of suppuration, and both hand and arm engaged in the inflammation. I immediately made an incision, extending the entire length of the finger, on its fore part, down to the bone; which produced almost immediate relief, and the inflammation of the limb gradually subsided. But these favourable circumstances were not attended with any amendment of the finger; the swelling of which was unabated, and the incision became a foul ulcer, through which the flexor tendon sloughed away, and the grating of the bones afterwards indicated that the second joint of the finger was diseased, and its cartilages destroyed; a circumstance that was attended with œdema of the entire hand.

Though I had little hopes of saving the finger, I determined to allow an opportunity for the formation of anchylosis before operation should become our only resource. With this view, I laid aside the incumbrance of emollient poultices, in order to be the better able to prevent, by bandage, the slightest motion of the part, which might impede the anchylosing process; and I was enabled to effect my purpose, by making the two adjoining fingers serve as splints, by passing a small roller about the three. In consequence of this treatment, the œdematous swelling of the hand in a few days entirely subsided, which all the poultices and fomentations hitherto used seemed rather to increase; and in about a month after this plan of treatment was adopted, the anchylosis was firmly formed, and the sore nearly healed, an event which soon afterwards followed; and my patient was well satisfied to recover from a complaint, which usually terminates in the loss of the part affected, though with the inconvenience of a stiff joint.

At the time this patient was under my care, I was called to visit a gentleman, who, in consequence of an attempt to remove by a penknife a corn, or an excrescence of a similar nature, situated over the ball of the great toe, induced considerable inflammation, which was increased to a violent degree by wearing tight boots the two following days. On the fourth from this unlucky operation, and unskilful after-treatment, the inflammation had extended over the entire foot, and was so high that I actually feared it would terminate in the sloughing of the integuments of the instep. However, by emollient poultices and fomentations suppuration was established, and the matter discharged itself spontaneously, by an opening over the first joint of the great toe, where the original mischief took place. However, on account of the great extent of the suppurating parts, I was obliged afterwards to enlarge this opening, and to make another for the discharge of the accumulating matter at the other side of the foot.

In the course of four or five weeks, when every thing appeared to be going on well, and the second opening had closed, the instep and ankles began to grow œdematous, and were puffed to a great degree, particularly at night. Shortly after this symptom, the grating of the bones soon notified that the joint had become diseased; and I looked with apprehension to the long confinement of my patient, with the additional consolation of an uncertain operation for the removal of the carious bones, and perhaps of the foot itself. My friend Dr Maxwell, who occasionally visited Mr L. with me, to whom I suggested the probability of preserving our patient from the tedium of a lingering confinement, and the probable repetition of precarious operations, by encouraging the formation of anchylosis, agreed with me in every particular; and absolute rest, and the prevention of every kind of motion in the part affected, were strictly enjoined. At this time the foot and lower part of the leg were constantly œdematous, and greatly discoloured, particularly the former; the discharge was of a good consistence, but in much greater quantity than could be expected from the extent of the sore, and was always found mixed with blood, which seemed to come from the loose spongy granulations that had formed.

The patient having been acquainted with his situation and our views, observed with attention the directions he received, and carefully forbore to move the foot, or the joint, by any exertion of the flexor or extensor muscles. The sore was dressed once a-day, and motion as much as possible prevented by a roller and firm splint of pasteboard underneath, fitted to the part. Under this treatment the œdematous swelling of the foot and leg quickly disappeared, healthy granulations made their appearance, and in five or six weeks we had the satisfaction of finding that the sore had healed, and that an anchylosis of the joint had taken place. Some inconvenience to the patient no doubt resulted from the anchylosis of a joint so necessary to locomotion; but he is happy to compromise the matter by preserving his foot, though at the expense of a stiff joint.

These cases may appear of little moment to practitioners who disregard every alternative but the knife; but they will not prove unwelcome to those who are satisfied with the humbler reputation of assisting nature in her different processes, and rendering unnecessary those dexterous feats of operation so well calculated to ensure the applause of the ignorant. There cannot be a doubt, that, in diseases of the large joints, anchylosis would much more frequently prevent the necessity of amputation, if proper means were taken to preserve the limb in a perfect state of quietness; in which the patient would readily concur, when aware of its importance. We every day meet with cases of the hip-joint disease, in which this event takes place; but, in the knee, it is comparatively a rare occurrence, and by many supposed impossible, on account of the great extent of the joint, and the long period that must elapse before the cartilages can be absorbed; a circumstance that must necessarily precede the formation of anchylosis. But in this they are mistaken; for I myself have seen two cases in which anchylosis of the knee had taken place; the leg was in a state of semiflexion, and the joint perfectly immoveable. These, with the cases I have related, incline me to believe, that this mode of cure might be adopted in many instances, which are at present the occasion of daily amputations.

X.

Medical Report for Nottingham, from March 1807 *to March* 1808. By James Clarke, M. D. Physician to the General Hospital, and to the Vaccine Institution.

> "The fullest collection of dissections would be of very inferior use, speculative or practical, unless we should be enabled, by comparing the symptoms with the appearances brought to light, to judge of the moment when great local changes are taking place, and of the necessity of a treatment adapted to this contingency."
>
> Beddoes.

The examination of morbose parts is, in too many instances, the only resource to point out the nature of the disease, by elucidating ambiguous symptoms, which have opposed our pathological inductions, and proved the greatest impediments to our practice. No doubt we may be, and indeed often are, disappointed in this expected information; but it is only by the accumulation of facts, resulting from repeated observation, that conclusions can be drawn which may enable the industrious practitioner to remove the veil which impedes his view, and to exhibit disease in all its deformity.

The scalpel, in the hand of the skilful anatomist, has often explored the nature of disease; and what may we not expect in a period like the present, pregnant with scientific inquiry, if those who have opportunity seriously turn their attention to the patient investigation of the morbid body; not hurrying over the dissection merely with a view to satisfy the relatives of the deceased; but, actuated with a desire of improvement, let not the dissector think that time lost, which he may employ thus to render himself conversant with diseased structure; his prognostics will in proportion become more just; and he will feel that self-satisfaction, which is an ample recompence for all his labours.

Much praise is certainly due to the exertions of Baillie and of Bell; but it is greatly to be regretted, that the price of their engravings puts it out of the power of the greater part of the profession to become possessed of works of such real utility. The fashionable rage for publishing fine books has made its way into our profession, and, if continued, must exclude many industrious men from that avenue to information;—our modern books are not published for the good of the public, but for the benefit of the bookseller. Whilst this was confined to miscellaneous reading, it might be tolerated; but when numbers of a liberal profession give sanction to such an abuse, to satisfy the cupidity of a publisher, there is no knowing what may be the consequence; we may return again to the lamentable state of monkish barbarism and superstition, wholly dependent upon the resource of a public library.

Many valuable facts unfolding disease have been lost to the public in the pupil's dissecting-room, where morbid and sound structure are often confused to the tyro. In the college of Edinburgh this is attempted to be remedied, by the demonstration of morbose parts to the pupils in the dissecting-room; but to render the plan complete, the public should receive communications from authority, of the important facts which such opportunities must present. It may be questioned whether society has not a very strong claim on public dissectors, to participate in the information they may acquire. Such men have a privilege, which is granted to them alone; and if they do not employ it for the public good, they abuse that noble forbearance, which, it must be admitted, is an individual sacrifice.

The prejudice of the public against the examination of bodies has much diminished; and, by a little exertion, it may be nearly annihilated. To the medical man, it must be extremely gratifying to detect the nature of that disease which mocked all his efforts, and, probably, from it, to acquire a hint for future practice. By comparing the progress of the disease with the appearances after death, results advantageous to practice must be formed, errors are corrected, and a new or more fortunate plan of treatment doubtless will be employed.

With these remarks we shall proceed to elucidate the table of diseases given in volume 4th, page 440.

Of the seven *intermittents* noticed in the table, all had their origin in Lincolnshire; they were subdued without any difficulty by the use of the cinchona.

The *febris nervosa* is the slow nervous fever of Huxham, and by him so fully and ably described, as to render any definition here perfectly superfluous.

Febris infantum remittens.—This disease was particularly noticed in the epidemics for August. It may nevertheless not be useless to present a case which had been taken for worms. It is very remarkable, how little attention is paid to the diseases of children, from a false notion that the practice must be mere guesswork; and those that appear to bestow some attention on the situation of the little sufferer, condole with the parents, and too frequently prescribe an innocent placebo. This conduct deserves severe reprehension. The truth is, if the same attention be paid to the child as to the adult, and the time that is employed in queries to the latter, be bestowed in observation on the actions of the infant, sufficient information will be procured to indicate the treatment that ought to be pursued. "It may be allowed me to state," says Dr Unwins, "that infancy and childhood demand from the professed guardians of the public health, an attention peculiarly assiduous, and perfectly sincere, freed totally from all tendency towards accommodation to the fears or prejudices of parents." * The subject of the infantile remittent was an out-patient under the care of the reporter, Joseph Cross, æt. 3½, March 15th, 1808. Has very tumid and elastic abdomen; limbs very much emaciated, and covered with red spots; fevered; feces of various colours, with much slime; prolapsus ani; diarrhœa; constant drowsiness; thirst; inordinate appetite; pain, which is referred to the abdomen.

The mother relates, that he has been ill from birth, and that he once passed a worm; since which, many strong medicines have been given him, without expelling any worms.

To take a purgative of calomel and jalap, and febrifuge powders.

March 31*st.*—Is reported somewhat better; diarrhœa continues; omit the febrifuge.

℞ Extracti humul. lupul. ʒij.
Decoct. cinch. flav. ℥vss.
Spirit. æther. nitros. Syr. simp. āā ʒij.
M. f. mixtura sumat cochl. j. medium ter in die.

April 7*th.*—Is reported to have inordinate appetite, and great thirst; but no fever or tumefaction of the abdomen. Repeat the purgative; continue the mixture.

April 28*th.*—Is reported not so well; omit the medicines.

℞ Carbon. ferri præcip. gr. vj.
Rhei pulv. gr. ij.
M. f. pulv. nocte maneque sumendus. Repeat the purgative.

May 19*th.*—Is free from complaint. *Dismissed cured.*

Podagra.—One of the instances of this disease was in a young man under thirty, a journeyman painter, who, from a fracture of the lower extremities, had been some time confined to bed. He had always lived temperately, and had no means of indulgence; on the contrary, his diet was often scanty. He had always enjoyed good health, until a few months previous to his accident, when he experienced a sharp attack of colica pictonum; which being soon removed, left him as healthy as before. He was no sooner sufficiently recovered from the fractures to enter on his employment, than the gout made its attack on the ball of the right great toe, with true nosological accuracy; and, in the morning of the paroxysm, he applied for medical assistance. The reporter ordered twelve ounces of blood to be drawn from the arm; cold water to be applied to the inflamed toe; and an aperient mixture. The paroxysm closed, and he had no return, but has ever since continued in good health. He never had the disease before, nor does he know of any hereditary disposition.

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* Modern Medicine, p. 74.

Hepatalgia is a very useful, expressive term, and is thus defined by Sauvages: "Morbus est cujus præcipuum symptoma est molesta sensatio, gravativa, tensiva, aut alia quævis in regione hepatis; differt ab hepatitide defectu pyrexiæ acutæ." It is divided into nine species: 1. Hepatalgia calculosa,—2. scirrhosa,—3. infarctus,—4. intercus,—5. æruginosa,—6. sarcomatosa,—7. apostematosa,—8. petitiana,—9. deceptiva. The following is a case of the first species.

Ann Lakin, æt. 46, single, received into the hospital March 22, 1808. Complaining of cough, accompanied with laborious breathing, and now and then copious expectoration of yellow mucus; pain at the pit of the stomach, and has sometimes sickness. Pulse 98, tongue white, belly regular, catamenia have been absent six years, ankles œdematous. An emetic was exhibited, and a saline mixture, with digitalis.

March 26th.—Died this morning, without making any previous complaint.

Dissection.

Thorax.—The right lung fully inflated, and strongly adhered to the pleura costalis and mediastinum; the left pleura contained about four ounces of fluid; the pericardium contained about one ounce of fluid; the auricles of the heart collapsed; the left ventricle distended with blood. *Abdomen.*—The liver discoloured, otherwise natural; the gall-bladder contained two hundred calculi, differing in appearance and consistence, inflammable, and easily evaporated by heat; the cystic duct was partially closed, just above its junction with the hepatic, so as to prevent the smallest of the calculi from escaping, but permitting the flow of the bile; the stomach and urinary bladder collapsed; the other viscera natural.

The pressure of water in the pericardium, is the only explanation that can be given for the sudden death.

The next case must be ranked under the second species, or hepatalgia scirrhosa.

Joseph Vicars, æt. 40, married, brickmaker; came under the care of the reporter, as an out-patient, December 1. 1807.

Complaining of much pain in the loins, increased on motion; passes urine freely, and without pain; no pain in the thighs, or affection of the testicles; pain much diminished when in the horizontal posture: belly regular; some cough; tongue furred; pulse very feeble; often shiverings, seldom very hot.

Has been thus ill six weeks.

To take a purgative and febrifuge powders.

December 14*th*—Received into the house. Complaining of much pain between the scrobiculus cordis and umbilicus, increased on pressure; shortness of breathing; tongue furred; pulse feeble, 88; passes but little urine, but without pain; no distension of the bladder; a short, dry cough is induced by a deep inspiration; feels cold, but never hot; slight fulness in the abdomen, without any particular hardness, or prominency of any viscus; feces of a darkish brown, thin in consistence, and small in quantity; appetite moderate; no nausea, or ejection of food; much thirst; belly open; some whitish matter observed in his stools this morning; feels easiest on his back, with his head elevated.

A blister to be applied to the part in pain.

One grain of calomel, and four of cicuta, to be taken night and morning; one grain of opium each night at bed-time, and a saline mixture during the day.

December 16*th.*—Has had several loose stools, intermixed with blood; pain diminished; can lye on either side; has passed two tolerable nights; blister acted slightly.

Continue the medicines.

December 17*th.*—Has passed two stools without any blood, very loose, and of a dark brown colour; breathing short; speech imperfect; incoherent at intervals; pulse very feeble; refuses food; tongue dry and brown; ankles and feet œdematous; countenance sunk.

Continue the medicines.

December 18*th.*—Laborious breathing; facies hippocratica; the pulse cannot be distinguished; speech more imperfect.

December 19*th.—Died this morning.*

Dissection.

Dissection.

Abdomen.—The liver much enlarged, thickened, and indurated, particularly the depending right lobe, which projected forward, and felt as hard as cartilage; the gall-bladder was about twice the natural size, but did not contain any calculi; the cystic duct natural; the hepatic and communis very much enlarged, and distended with bile; the spleen very much enlarged, and of a very fine violet colour, and much indurated; pancreas small, but natural; stomach, mesentery, and bladder natural; both kidnies much enlarged and indurated.

Thorax.—The lungs adhered to the pleura, and were fully inflated, but free from disease; about one pint of fluid in the left pleura; no water in the pericardium; vena cava, right auricle and ventricle of the heart empty; the left ventricle and auricle distended with blood.

The following very interesting case may be placed under the seventh species, or the Hepatalgia Apostematosa.

Mr H. æt. 35, married, brush-maker. About eight years since, after a sudden and violent exertion in vaulting over a gate, experienced some pain in the right side, which came on suddenly, and has been more or less troublesome ever since, but more particularly during the autumnal months, when he generally found relief from a calomel purgative, exhibited at proper intervals, being enabled to continue his employment as usual, until about three years since, when he put himself under the care of Dr Storer of this place, who has obligingly favoured the reporter with the following well connected detail. "He consulted me on account of a considerable protuberance in the region of the liver, accompanied with great distension, and a sense of general uneasiness, which created restlessness and impatience; the protuberance was smooth, but without fluctuation, and conveyed to the touch the idea rather of solidity than induration. He was put upon a course of cicuta, with calomel; and occasional laxative medicines interposed, living chiefly on milk, broth, pudding, and fruit. Under this system, the tumor at one time became considerably diminished, and proportionably softer, but was still very considerable, and creating many uneasy sensations, until one day, in the course of a walk of upwards of a mile, he was sensible of a crash, as if something had burst in the part, accompanied with sickness, a sense of some revolution internally, followed by a laxative stool, which he had no opportunity to examine. The protuberance subsided at the time, so that the region of the liver was found

The ample commentary of Dr Storer, renders any further remark unnecessary.

Phthisis makes great ravages in this manufacturing district. The close confinement in small unhealthy apartments, irregularly heated, and scarcely ventilated, must make an unfavourable impression on the constitution. In this town consumption preys chiefly on the labouring part of the community. Their children from the age of five are placed at the tambour frame, or employed to seam or cheven stockings; occupations in which they must necessarily remain many hours in a bending posture; and too often their only relaxation is an hour or two in the evening, exposed to the damp air, and a few short hours devoted to sleep. At this work the boys continue to the age of eight or sometimes twelve, when they are put to the stocking-frame. This obliges the body to assume a very different position; the arms are now thrown outwards, and the chest (if not contracted past remedy) forcibly expanded. Many continue several years unable to perform any heavy work, from weakness of the chest and arms; but they now enjoy a little more liberty, should they fortunately meet with a humane master. They are still, however, when at work, penned up in close rooms, warmed perhaps by a stove, and badly ventilated; they in consequence become more susceptible of cold, often leaving the work-room covered with perspiration; and the effects are in proportion more serious, as the nature of their employment, if it does not dispose to, tends not a little to increase any incipient inflammation of the chest.

The females ever continue in the same prone posture; are generally high shouldered, and by their figure are easily distinguished from females whose employments are of a different nature. The rooms in which they work are much less objectionable than those for the men; but their bed-chambers are generally very indifferent, and six or more sleep in one small garret, with the air carefully excluded:

> " Save one dull pane, that, coarsely patch'd, gives way
> " To the rude tempest, yet excludes the day." *

But what is equally destructive to the health of this community, is the carelessness with which they inhabit newly built houses, in which they often live and sleep whilst the plaster is quite wet on the walls, and indeed sometimes before the windows have been placed in the frames. These causes would be sufficient to account for the prevalence of consumption in this town.

Some in the incipient state of the disease, when admitted into the hospital, have been restored with very little medical assistance;

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* Crabbe's Poems, p. 13.

a recovery which with justice may be attributed to the regular and genial warmth of the wards, and the respiring of pure warm air; the lungs being preserved from moist air, or the still more deleterious effects arising from open coal fires; to which foreigners attribute the great prevalence of consumption in this country.

One case of this disease occurred, which points out the impropriety of despair. A young woman, of a consumptive family, having just buried a sister of that dreadful malady, applied to the reporter for relief, with symptoms strongly phthisical. As her sister had been treated on the antiphlogistic plan without success, a generous diet, the myrrh mixture of Griffiths, and a mucilaginous mixture for the cough, were recommended in this case. She became worse, expectorated pure pus, with confirmed hectic fever. No hope remained; but as she strongly requested something more might be done, an issue to contain six peas was opened in the side, which, in a little time, produced a salutary effect. The same medicines were continued, and in a few weeks she was restored to health.

In large manufactories, where some hundreds of persons, chiefly children, are employed, the greatest attention is paid to their health. It is a mistaken notion, and founded in very cursory observation, that these children become cripples and unhealthy from the nature of their employment and confinement; the truth is, the mill is the only resource for the cripple, the idiot, and the scrofulous; for here employment can always be proportioned to the ability, and some little return brought to the family, from the most unfortunate. Thus, a greater number of these objects are to be met with in manufactories; hence the unwarrantable conclusion has been drawn, that these employments are directly destructive to population; whereas it is a fact, that healthy constitutioned children continue in perfect health, nor experience the disease, misery and misfortune that befalls the maker of lace on the cushion in Northamptonshire and Buckinghamshire, and those engaged in many other sedentary employments, which have continued to afford provision for the labouring community for a series of ages. It is the interest of the manufacturer to preserve the health of those whom he employs; some certainly see this in a clearer light than others, and are regardless of any expense, if it be productive of advantage to his people.

But the evils which have been noted, are found only among the class who work at their own houses. Measures might certainly be adopted to lessen, if not remove them. 1st, The tambour frame might be placed on an elevated, moveable pivot as the telescope, on which all the work might be performed with very little inclination of the body. 2d, When boys are placed to the frame, the narrowest frame should be first employed, and the work should be of that kind that does not require much force, or close pressing; thus they might be gradually brought to the use of the heaviest frame without injury to the chest. A room, which is called a shop, has frames ranged on each side, under the windows, which are placed higher than common, to admit the light on the work. Sufficient room only is allowed between each frame for the seat-board; so that a room about fourteen feet long, ten feet broad, and eight feet high, will hold eight frames, at each of which one person sits at work. The door is kept closed by a lead and pully; the cracks and chinks of the windows are covered with paper, and the apartment warmed by a common stove, producing a suffocative sensation on entering from the external air. The remedies for these defects are self-evident.

Superficial observers have stated, that there is but little difference between the use of the common chamber-stove, and the plan of warming the hospital here. A few minutes consideration will remove this error. The air that is employed in warm ventilation at the hospital, is the purest external air, rarefied by the heat of the cockle, and thus ascends to the wards. The warmth produced by a chamber stove, is transmitted through the medium of the air of the apartment, which, saturated with perspirable matter, dust, &c. &c. rarefied by a heated surface, supplies heat as well as impure respirable food. The stove in these close rooms is often, for want of a current of air, brought to a red heat; the air is then decomposed, and the workman's attention is first called to this circumstance, by its inducing a short, dry cough, (tussis irritativa); the door is then opened, the air changed, and the effect removed, until the same cause produce again a similar result. These statements being admitted, chamber-stoves must consequently be considered extremely obnoxious, and ought to be abolished.

Working-rooms and sleeping rooms ought to be washed, twice in the year, with hot lime-water, and every part or article of furniture diligently cleaned. When the work-room has a plaster floor, the feet should be placed on oil floor-cloth, not on carpet, which absorbs all the moisture the plaster constantly attracts from the air. This remark does not apply to the frame-work knitter, as his employment requires the feet to play on traddles of wood; but it is particularly applicable to females, who continually complain of cold taken in that way, and very often attribute amenorrhœa to a damp plaster floor.

[*To be continued.*]

PART

PART II.

CRITICAL ANALYSIS.

I.

Description des Maladies de la Peau, observées à l'Hopital St Louis, et Exposition des meilleures Methodes suivies pour leur Traitement. Avec figures colorées. Par J. L. ALIBERT, Medecin, &c. &c. 3ieme et 4ieme Livraison.

[*Continued from Vol. III. page* 461 *of this Journal.*]

LES DARTRES, OU HERPES.

EVERY one conversant with the writings of the French physicians, knows how familiarly, and how vaguely the term Dartres is employed, and that it is often difficult to understand precisely what diseases of the skin they mean to comprehend under it. Alibert seems to pride himself much on the observations he has made on these diseases, and the classification by which he has arranged them. We know not as yet, fully, the extent of these, as, in the numbers before us, he has described five species only, the Herpes Furfuraceus, Squamosus, Crustaceus, Excedens, and Pustulosus. But that he has arranged under the head of Herpes, a number of diseases of very different characters, and which have been kept separate by more accurate nosologists, appears evident enough from his general observations, and indeed from the very showy and sometimes accurate plates of the present numbers. Different species of lepra, lichen, and psoriasis, are classed under the genus herpes; or, to judge from the following observation, a still greater variety of diseases. "Herpetic eruptions, in some circumstances, hardly show themselves above the skin; in other cases, they cover it with *hard scales, thick crusts, tuberculous pustules, horrible phlyctenes, sordid ulcers, &c.* Some inundate the neighbouring organs with a fetid and ichorous sanies, or establish, in the mucous membranes, vicious secretions, spreading sores which consume and destroy the teguments, as the bark of trees is devoured by destructive insects."

Though these diseases have commonly been supposed to be of a contagious nature, it does not appear from observation that they are easily generated in this way. Alibert tells us, that he and his pupils have applied the matter of herpetic crusts and pustules to various parts of their skin, without ever producing the disease; a similar observation was made by the anonymous author of the 6th number of the Inquirer, Vol. ii. of this Journal. That the natural functions of the skin, when affected by these diseases, should be impaired, or interrupted, seemed highly probable: a complete interruption of the cutaneous exhalation has accordingly been observed by our author. "We have observed," says he, "at the hospital St Louis, patients, in whom the cuticular transpiration was interrupted, and replaced by an exhalation from the lungs, more abundant than natural. This exhalation was sometimes so profuse, that, condensed by the cold of the air, it fell like dew on the blankets and bed-covers of the patients."

Sp. 1st. *Herpes Furfuraceus.*—Eruption appearing on one or more parts of the skin, in the form of slight exfoliations of the epidermis, resembling the molecules of meal, or scales of bran. These little scales sometimes adhere strongly to the skin, sometimes separate very easily.

Varieties.—A. Herpes Furfuraceus *volitans.*—So named, because it spreads successively over different parts of the body. Besides, the farinous matter, and little scales, detach themselves so easily, that they are collected abundantly in the beds of those affected. It is this variety which is sometimes seen on the face of those who have shaved with a bad or foul razor. Those who have fair, or red hair, a white skin, and little energy, are particularly subject to this variety.

B. Herpes Furfuraceus *circinatus.*—Attacks, commonly, strong and robust subjects, of the bilious and sanguine temperament. It forms circular and rounded patches on the skin, the borders towards the middle being most elevated; as the patches enlarge, the centre often becomes quite sound, and regains its natural colour. This variety is observed, commonly, on the arms and legs, particularly near the articulations of the elbow and knee.

The *herpes furfuraceus* thus assumes very different forms; sometimes it appears as a loose, and fine white-coloured farina; at others, it is observed in the form of circular or orbicular scaly patches, with rough, prominent, elevated edges. It is observed sometimes on the scalp, but most commonly on the fore-arm, and in the neighbourhood of the knee and elbow-joints. Sometimes it spreads over the whole body. It is much disposed to spread, healing in one part while it extends on the other; hence the name of serpigo, by which it has sometimes been designated. The itching which accompanies this species, though commonly not very considerable, is sometimes distressing, especially when it attacks parts of much sensibility, as the organs of generation of either sex. The general health is seldom affected, or much disturbed by this cutaneous disease.

Plate XI. represents the first variety of Herpes Furfuraceus, affecting the scalp, and appears to us to be the same with the Pityriasis Capitis of Willan; and Plate XII. representing an example of the second variety, occurring on the fore-arm, bears a strong resemblance to the psoriasis, and even the lepra vulgaris.

Sp. 2d. *Herpes Squamosus.*—Characterized by exfoliations of the epidermis, which form scales larger than those of the first species. These scales are easily torn from the skin, when laid hold of by the nails or fingers, and, as they dry, often fall off spontaneously.

A. Herpes Squamosus *madidans.*—In this variety, the skin pours out continually an ichorous humour, sometimes very abundantly. It is chiefly observed on the ears, nose, and genital organs; but it often occupies the whole of the dermoidal system, to the unspeakable distress of the patient.

B. Herpes Squamosus *orbicularis.*—It is commonly dry, and appears for the most part in the form of several concentric circles. The dry scales are successively thrown off, and renewed. It is ordinarily found on the middle of the cheeks.

C. Herpes Squamosus *centrifugus.*—Appears in the palms of the hands, in form of circles, or orbicular points, from the desiccation of the epidermis, which becomes white. These circles, more or less numerous, enlarge from the centre to the circumference, till the whole hand is completely deprived of its epidermis, which is then reproduced, and the affection disappears.

D. Herpes Squamosus *lichenoides.*—Formed of white, hard, coriaceous scales, exactly resembling the *lichens* in colour and consistence; so that a patient at the hospital St Louis seemed wholly covered with these parasite vegetations.

The Herpes Squamosus is a much more severe affection than the farinosus. At its commencement, the skin appears red, and inflamed in several points; a number of minute pustules appear, accompanied with considerable itching, and discharge of an acrid ichorous matter, which has an odour very similar to that of the heated farina of worm-eaten wood. The vessels connecting the epidermis with the skin are destroyed, and large, humid, transparent scales are formed, fall off, and are replaced by others. The exfoliation of these scales takes place on one edge, while the other remains strongly attached. This, he thinks, serves to distinguish the herpes squamosus from the farinosus, the scales of which detach themselves around their whole circumference. When the herpes squamosus is very humid, the pruritus is proportionally aggravated, and becomes sometimes insupportable. In the herpes squamosus lichenoides, he has seen the nails affected with disease, and sometimes fall off with the desquamation of the skin. The cellular membrane sometimes becomes œdematous, the face and whole body swells, and various dropsical appearances, and internal affections, arising from obstructions, are observed. This species of herpes is commonly accompanied and connected with general derangement of the health. Then, not unfrequently, says our author, dreadful consequences follow, and, as the ancients justly observed, lichen becomes the forerunner of lepra. And indeed, sometimes the skin is chopped in a dreadful manner, the hair falls off, a purulent, fetid matter exudes, which forms at once crusts and scales; hectic fever supervenes; the nights are disturbed by excruciating pain, and universal pruritus; the body is consumed; marasmus follows; and death closes the scene.

Sp. 3. *Herpes Crustaceus.*—Variously figured crusts, of a yellow, grey, whitish, or greenish colour, which remain attached to the skin for a longer or shorter time, and, when they do fall off, are replaced by others.

Varieties.—A. Herpes Crustaceus *florescens.*—This variety is produced by an exudation of a yellow colour, which, becoming dry, forms crusts resembling honey, or the gummy exudations of certain trees. In its progress it somewhat resembles erysipelas. The cellular tissue is somewhat swelled; most commonly it appears on the middle of one or both cheeks; but our author has also observed it on other parts of the body.

B. Herpes Crustaceus *procumbens.*—So named from the crust which it forms, hanging like a stalactite from the part which it occupies. It is commonly attached to the olæ nasi.

C. Herpes Crustaceus *musciformis.*—Our author is the first who has noticed this variety. It much resembles the mosses which grow on the roofs of houses. The crusts are greenish, surrounded with a red areola, and as it were set in the skin, which is always a little swelled; hence the crusts are removed with difficulty. It is observed on the hands, on the lower part of the thigh, and on the face. When the crust falls off, there is observed

served beneath it a sort of fleshy, prominent, granulated shoot, on which the ichorous matter concretes.

The herpes crustaceus makes its appearance at first under the form of small flattened pustules, about the size of millet seeds, which burst, pour out an ichorous fluid, which is converted, in drying, into various figured crusts.

This is at times a violent disease. The face becomes covered with a crustaceous matter, adhering more or less strongly to the skin, which is red and inflamed. The cellular texture becomes swelled; and where there are no crusts, the epidermis is often hard and rough, or covered with little scales. Where the skin has been injured by the scratching of the patient, there appear little quick fleshy papulæ, which continually pour out an ichorous or purulent matter. " And such," says our author, " is sometimes the disposition of the skin to this disease, that when blisters have been applied to the arms, or to other parts, an herpes is there excited, perfectly similar to that before existing on other parts of the body.

Commonly the herpes crustaceus is attended with much itching, amounting to a sensation of burning in the variety *florescens.* The herpes crustaceus is not a very stubborn disease; but when it occurs in scrofulous or scorbutic habits, it often resists, for a long time, every sort of treatment.

Sp. 4th. *Herpes Exedens.*—Appears in the form of pustules, or corroding ulcers. These furnish a fetid and ichorous matter. They destroy not the skin alone, but attack and corrode the muscles, cartilages, and even the bones.

Varieties.—A. Herpes Exedens *idiopathicus.*—Occurs without any apparent cause, and may be referred to a particular degeneration of the humours, which it is impossible to determine.

B. Herpes Exedens *scrophulosus.*

C. Herpes Exedens *syphiliticus.*

The Herpes Exedens has been distinguished by a variety of names, *herpes estiomenus*, lupus vorax, papula fera, formica corrosiva.

At the commencement of this terrible evil, the mucous membrane of the skin becomes red, hard, and swelled into unequal lumps. A dull pain is felt in the parts; the surface is itchy, and the patients seek relief in vain from scratching themselves. Soon the epidermis gives way; the reticular membrane is injured; the whole skin becomes irritated and inflamed; and an ulcerated pustule is formed, which discharges an ichorous matter, so acrid that it inflames the neighbouring parts, and extends the disease. Almost always, the matter forms a large crust, which covers the parts destroyed; and this crust, when it falls off, is soon replaced by another. At last the disease encroaches on the parts beneath; the skin is deeply destroyed; the bones become carious; and the matter becomes more fetid and more corrosive. The patients now suffer from want of rest; they sink under a slow fever; the internal functions, particularly those of digestion, are affected; and a colliquative diarrhœa still further depresses the vital powers. "In short," says our author, "all the organic systems partake of the local affection. The lymphatic system and abdominal viscera become obstructed; the sallow complexion shows that the spleen is affected; the liver soon suffers a similar change; the feet become œdematous; and the increasing colliquative flux soon puts an end to the unhappy sufferer.

The herpes exedens seldom attacks more than one point of the surface at a time. Its most usual seat is the face, on the nose, or the upper lip; sometimes it advances from these parts towards the forehead; sometimes too, though rarely, the author has seen it in other parts, as in the loins and thighs. The herpes exedens has been confounded with cancer by some authors; but they are easily distinguished. Though attended with a sensation of heat and burning, the herpes exedens is not accompanied by those sharp and lancinating pains which characterize cancer. It has neither the same fetid odour, the same colour, nor the same appearance which belong to cancer. In cancer, a fleshy fungus shoots out, the edges of the ulcer are hard, callous, and retroverted, and the blood-vessels are dilated and varicose. In herpes exedens, nothing more is observed than a red and inflamed circle, more or less extended, which surrounds the pustular point or ulcer.

Sp. 5th. *Herpes Pustulosus.*—Pustules of various size, more or less crowded, on one or more parts of the surface. The matter contained in these pustules dries and forms scales, or thin crusts, which, falling off, are replaced by reddish-coloured maculæ.

Varieties.—A. Herpes Pustulosus *mentagra*; so called when seated on the chin.

B. Herpes Pustulosus *gutta-rosea*; commonly situated on the nose, cheeks, and forehead of those addicted to the abuse of spirituous liquors.—Observed by the author to be often complicated with a scorbutic affection of the gums.

C. Herpes Pustulosus *miliaris*; eruption of small white shining grains, perfectly like millet-seeds; often observed on the forehead of young girls approaching to puberty.

D. Herpes Pustulosus *disseminatus*; so called because it is composed of reddish pustules, dispersed here and there over the skin. The pustules are much larger than those of the preceding varieties. They are very obstinate, and, when they do disappear, leave dirty red spots behind them. It commonly is observed on the breast and shoulders, sometimes on the face.

The pustules of the herpes pustulosus discharge a quantity of matter, which, drying, forms scales or thin crusts, which fall off, after having remained a longer or shorter time attached to the skin. As these pustules dry, others arise and go through the same course. They assume different forms; sometimes they are small, inflamed, and surrounded with a red circle, and grouped together in a corymbus; sometimes the skin is raised and swelled; at other times, the pustules, of different sizes, are scattered over a large surface, &c.

(*To be continued.*)

II.

Remarks on the Frequency and Fatality of different Diseases, particularly on the progressive increase of Consumption: with Obervations on the influence of the Seasons on Mortality. By WILLIAM WOOLCOMBE, M. D. 8vo. London, 1808.

THE best way of making the plan of this work known to our readers, will be to transcribe the following passage from the preface.

" In submitting to the Public the result of his own inquiries concerning some points of Statistical Medicine, the design of the Author will be accomplished, if it shall be found that some useful addition has been made to the stock of authentic materials, some useful suggestions offered, conducive to the more successful investigation of subjects which he deems of importance, of questions in which he thinks the interest of the public intimately concerned. Of the tables which constitute the essential part of the following pages, the first five have been formed from materials afforded by the register of the medical cases occurring at the Public Dispensary at Plymouth, in a period of seven years from the establishment of the institution. In framing them, the object has been to exhibit the proportionate prevalence of different diseases, and the absolute and relative mortality resulting from them; as well as to afford grounds for instituting a comparison between the prevalence of diseases in different districts at the same period, and in the same district at different periods. "—Preface, ii.

These tables appear to have been framed with great care and attention; and the remarks subjoined to them are everywhere perspicuous and interesting. The result of Dr Woolcombe's inquiries show the predominance of pulmonary complaints in general, and point out most forcibly the frequency and fatality of pulmonary consumption. From some of the tables it appears, that the absolute and relative mortality from consumption has been regularly increasing during the last century; but as the population has been on the increase, a question arises, whether a larger proportion of the inhabitants of this island die of this disease at present, than at the close of the seventeenth century? To this question the answer is affirmative; and it is further added, that if the proportion of consumptive to general mortality for the kingdom at large be admitted to be as 1 to 5, and if it be granted that the annual mortality is to the population as 1 to 40, while it is ascertained that the inhabitants of Great Britain amount to eleven millions, it will be found that the *annual victims to consumption in this island are not less than fifty-five thousand persons.* By contrasting the average of deaths at Plymouth with those averages which are deduced from periods nearly correspondent in time, of which we have instances only in Bristol and London, the phthisical mortality at Plymouth has of late years been nearly one-fourth less than in London, and less by nearly one-half than in Bristol. It should be remembered, however, that many consumptive patients are attracted to these two places for the sake of medical advice, and the use of the far-famed waters.—There are so many sources of error in forming computations respecting the relative mortality of diseases, that we are disposed to think the proportion of deaths from phthisis is overrated in this country. Consumption is so general a term, that it is indiscriminately applied to all who die of a protracted disease in an emaciated condition; and nobody loses his flesh and his ruddy looks, without being set down upon the list of the consumptive. It would be very desirable to have accurate records of those places in Portugal and Spain, Italy and France, where invalids are in the habit of retiring, in order to estimate the comparative exemption of the native inhabitants from complaints. If we contrast the tables of Dr Woolcombe with the latest and most authentic registers of the mortality at Vienna and Berlin, it will be found that the average number of deaths from consumption is not greater in Britain than in Germany; and if so many thousands are yearly carried off by one cause, the relative influence of climate and other external circumstances may perhaps have bewildered the attention of the political as well as the medical philosopher. The mortality in Vienna, according to the account of some late travellers (*Kuttner's Travels through Austria, &c.*), exceeds that of any other place in Europe; the annual proportion of death is calculated at one in twenty, and even this is said to be underrated. Diseases of the lungs are very common there, and one sixth part of the deaths are owing to consumption.—At Berlin one third of the deaths in the hospital are from consumption, and the annual phthisical mortality is to the general mortality as 1 to 5.—What can be the cause of this prodigious expenditure of life! in countries, too, where thousands and tens of thousands are destroyed by the ravages of war. Since the disappearance of the plague and the diminution of small-pox from the bills of mortality, the proportion of deaths remains nearly the same, and we are led to attribute this to the excessive frequency of pulmonary disorders; yet some doubts may be entertained whether we are justified in so doing. Perhaps the fatality of those diseases would be diminished, by encouraging that spirit of emigration which is one of the great causes of our national prosperity. Persons desirous of removing, might be carried in all directions to the British settlements, and registers should be kept of the districts to which families with a consumptive tendency could be most advantageously exported. As long as the spirit of emigration is kept up among the numerous classes in Great Britain, there is no fear of the superfluous population, preserved by the vaccine inoculation, being unable to find its due channel; and experience will destroy the sophisms advanced against removing the labourer to situations where his toil is most productive and his health can be best preserved.

There is a great deal of instruction for those who seek to be instructed, and of amusement for those who seek only for amusement, in this little volume, and it is more praiseworthy, because it naturally leads to farther investigations of the same kind, not only in other places, but in the same quarter.

III.

A Treatise on Scrofula. By JAMES RUSSELL, Fellow of the Royal College of Surgeons, and Professor of Clinical Surgery in the University of Edinburgh. 8vo. Edin. 1808. pp. 144.

WE must candidly confess that we have been much disappointed by the perusal of this treatise. We may have expected information from having desired it; and our expectations may have been raised too high, by our author's known opportunities of acquiring, and his industry in collecting information. It ought also to be remembered, that this treatise was at first composed in the form of a spoken discourse, and, since that time, every observation thought worthy of being recorded has been incorporated with the original materials.

Some of the confusion which seems to us to pervade the whole dissertation, may have arisen from thus inserting additions at various times, without observing that they destroyed the connexion between the different parts of what was already written, and occasionally rendered the whole unintelligible. Besides, spoken discourses are not, and ought not to be criticised by the same standard as essays composed for the press. A lecturer must speak on every subject which comes within the plan of his course; and, if he employ a due degree of diligence in compilation and arrangement, it would be unreasonable to blame him if better lectures have been given by others, on some, or even all, of the same subjects. But the public have a right to expect something more; something better in matter or in manner than what they already possess, from the author of printed treatises, who voluntarily presents himself as a candidate for the rewards which they have to bestow. We cannot say that in either of these respects our author has surpassed his predecessors. We do not find that he has added to our material knowledge of scrofula, and he has certainly not been successful in his manner of treating the subject.

The original plan of our author was "to collect and arrange the principal facts connected with the history of this interesting disease—to convey information in a plain and simple manner—and to establish fundamental principles upon satisfactory evidence—and, in place of giving particular histories of cases, to aim at making the description of the different appearances so distinct, that every reader of attention will be able to supply the characteristic distinctions to every case which he meets with in practice, and that afterwards he will have no difficulty in treating the case according to the principles of practice laid down." From all this we were led to expect a complete monography of scrofula; and we could not conceive why the author avoided entering upon several very interesting topics intimately connected with his subject, until we came to the peroration, in which we are informed, that he had contented himself at present with giving a view of the nature and treatment of scrofula in its *more general form*, and reserved, for the subject of future and more particular discussion, whatever observations he might hereafter have to offer on the scrofulous affections of particular organs. In short, we learn, at the conclusion of the book, that the title is a misnomer, and that, instead of a "Treatise on Scrofula," it should have been called a "Treatise on the more General Form of Scrofula." The reasons given for this apparent deviation from his original intention are quite unsatisfactory, especially as our author has by no means confined himself to the more limited view of his subject. The work before us neither treats of scrofula as a *genus*, nor of a particular species or state of scrofula, nor of several, nor of all of the species or states of scrofula.

A disease which assumes such a variety of forms, with difficulty admits of a generic description; and what are commonly described as generic characters, are either imperfect descriptions of particular species, or, what is worse, an incongruous selection of symptoms of different species. There are no symptoms, no particular succession of symptoms, essential to scrofula; nay, there are varieties of scrofula which seem to have nothing definite in common with each other. We may be told, that in both, the effects of scrofulous action may be discovered. But what are the effects which characterize scrofulous action? A tumor, for example, is said by our author to be scrofulous, if it be uncommonly slow or unusually rapid in its progress; if it disappear suddenly, or remain long indolent; if it be soft or firm; if it be circumscribed or diffuse; if it contain lymph or pus, or a fungous mass; if it be seated in the lymphatic glands or anywhere else. Are all tumors, then, scrofulous? or is there any way of distinguishing scrofulous tumors? Supposing we receive for answer, that we must consider the constitution in which they occur, we shall find it still as difficult to acquire any definite or precise idea of what is meant. We have, in one place, p. 8, the old story of scrofulous people having, in general, a fair complexion, florid cheeks, tender eyelids, and swelled upper lip; being often comely and handsome, active and alert, though not robust, and distinguished for acuteness of understanding and precosity of genius; then, p. 51. a pale yellowish complexion, dull eyes, flabby and clumsy plumpness, without the firmness or elegance of health, glands subject to infarction, and a skin liable to sores and pimples, seem to be connected with a scrofulous disposition and too full a mode of living; and again, p. 50, we find that a scrofulous disposition may be *ingrafted* on a vigorous constitution, *interwoven* with a plethoric diathesis. In short, the term *scrofulous* seems almost synonymous with morbid; or, at least, like nervous, gastric, bilious, &c. scrofulous is a very convenient term for satisfying the teazing solicitations of patients and friends, who will have a name to diseases we do not understand. If this were all, it might not be of much consequence how many distinct diseases were confounded under the term scrofulous; but we are afraid that there is a numerous set of practitioners, who, having once pronounced a disease to be scrofulous, suppose that they actually do understand all that is to be learnt concerning its nature, and remain satisfied in their ignorance.

Our author does not give any formal diagnosis of scrofula from diseases with which it may be confounded. The only attempts at diagnosis which incidentally occur are very unsatisfactory. One rare variety of scrofulous swelling, we are told, "may be thought to bear a distant resemblance to the disease termed, by some authors, *fungus hæmatodes*; but none of the instances which have come within my notice have displayed any of the malignity inseparable from this very dangerous disease." p. 23. Again:

> Scrofulous ulcers "sometimes assume a more malignant aspect, having elevated indurated edges, and fungous central granulations, accompanied with pain and an ichorous discharge. In these cases they may counterfeit the appearance of cancerous ulcers: but though the resemblance may be very imposing, we are in general able to ascertain the real nature of the case, by tracing its history from the commencement, and by inspecting the rest of the patient's body with accuracy, when the vestiges of former scrofulous sores, or other proofs of a scrofulous constitution, often manifest themselves, and banish every doubt. This kind of collateral evidence is often requisite to render the investigation satisfactory and conclusive, and ought to be employed in all cases of difficulty." p. 25-26.

Unfortunately our author's description of the symptoms and appearances of scrofula does not supply the want of a good diagnosis. It is deficient in arrangement and perspicuity. Take his description of scrofulous tumors for example: After repeating the common characters of a scrofulous constitution, he tells us, first, that one of the most frequent symptoms of scrofula is an indolent swelling in the superficial lymphatic glands, p. 10.; and then, that the greater number of scrofulous affections are accompanied with a preternatural swelling of the parts attacked, p. 12.; two kinds of which swelling, one soft, the other firm, gelatinous, are the most frequent, but not the only ones which occur in cases of scrofula, p. 21. These two, the soft and gelatinous, are again described in one place as equally characteristic of scrofula, p. 12.; and in another, as modified by the extent into which scrofula enters into the character of the morbid action, p. 21. After perusing the whole description with the utmost attention, it is not easy to be satisfied whether the author means to include the indolent lymphatic swelling first mentioned again as a species of the genus of "preternatural swellings of the parts attacked." If he does, the confusion introduced by his describing first a very frequent species, then the genus, and lastly, the principal species, is inextricable; and if he does not, which is rather our opinion, he is betrayed, by want of arrangement, into the incongruity of saying, that a kind of swelling, which is one of the most frequent symptoms of scrofula, is not one of the most frequent swellings which are characteristic of the disease.

Of the prognosis we only learn, that scrofulous sores are worse to heal the farther they are removed from the centre of circulation; that the supervention of fever renders them dangerous; and that, when the hectic feverishness proceeds from any permanent disease in the system it commonly proves fatal.

The next chapter is on the proximate cause and nature of scrofula. In a preceding chapter, our author would not "venture to lay down any precise prognosis in a general view of the disease;" and in this he declines entering upon a formal discussion of those very questions most connected with a general view of the disease. We are perfectly aware how unsatisfactory the inquiry into the proximate cause of diseases commonly is: but still it is of advantage, by leading us to correct and increase our stock of facts, to compare and arrange them, and at last to arrive, by cautious induction, at a just and precise notion of the subject of our investigation. Our author's own opinions respecting the nature of scrofula, appear to us extremely vague and obscure. "The nature and tendency of scrofula is (are) so far more certainly known, that in all respects it produces sedative effects, which weaken and impair the powers of life." p. 35. Again: "One of the sedative powers of scrofula has been thought to arise from the weak action of the heart." p. 36. We might ask what sedative powers are here meant? What other sedative powers does scrofula possess? Whence do these arise? What do we learn from being told that scrofula, in all respects, produces sedative effects, which weaken or impair the powers of life? or is this telling us any thing more than that scrofula is a disease? We shall conclude our observations on this chapter by confessing, that we are too dull to see any connexion between sudden death from debility of the heart and the proximate cause and nature of scrofula.

The occasional causes of scrofula, climate, cold and wet, impure air, insufficient and unwholesome food, indolence, external violence, and fatigue, are treated of with great brevity. Our author's opinion of their effects may be learned from the following quotations: "How far the combination, energy, and continuance of them is (are) capable of giving birth to scrofula, is a difficult point to determine." p. 38. "Whatever may be the effect of the different remote and occasional causes, when acting separately, and for a short time, their power, when combined and long continued, is almost irresistible; so that the assistance from hereditary taint is hardly requisite to render their operation effectual." p. 43.

The method of cure occupies more than half the volume. Our author divides the treatment into two periods, one without, the other with, local sores and other marked symptoms, which require appropriate treatment. He first recommends the patient to be placed in a totally different *situation of circumstances*, with the intention of avoiding the occasional causes which may have been hitherto acting. So far we agree with him; but we cannot so readily concur in the curious speculations on specific remedies, which are subjoined to the consideration of the advantage to be derived from a change of situation.

Our author's observations on the diet of scrofulous patients are judicious.

"Of the various articles of regimen which demand attention in the management of scrofulous patients, the article of diet is one of the most important. The languor and debility which prevail in scrofula naturally indicate the use of simple nutritious digestible food, taken in such quantity as the stomach can bear, without being overloaded. Nutritious diet is supposed to include a reasonable allowance of animal food. A violent prejudice, it is true, formerly prevailed in favour of a contrary system of management. But experience, and more accurate observation, have now fully confirmed the pernicious effects of that over abstemious system, and have deservedly brought it into discredit. I have no doubt on the subject myself; and, so far as it is allowable to argue from a single instance, I may refer to a case, in which the question was brought to the test of experiment. The elder children in a gentleman's family were reared agreeably to the precepts of the abstemious system, and became scrofulous at an early period of life. This distressing occurrence occasioned great vexation and alarm; and the parents, being people of good sense, determined to alter the system of management, and to try the effects of a fuller and more nourishing diet. The younger children, therefore, were all reared according to the opposite system, and, being indulged in a more liberal allowance of food, had the good fortune to escape any appearance of scrofula." p. 48, 49.

He next treats of particular medicines. An uninterrupted course of purgatives, for a considerable length of time, is recommended where scrofula is ingrafted on a constitution otherwise healthy and vigorous; but, in scrofulous atrophy and emaciation, great care is required in their exhibition. The total expulsion of the morbid accumulation of feces, together with the establishment of a regular alvine discharge, affords, according to our author,

thor, an exact measure of the course of purgative medicines requisite to accomplish the object in view. It is remarkable, that, in the course of this discussion, Dr Hamilton's name does not once occur.

After a few observations on tonics, he treats of some supposed specifics, cicuta, and the muriates of barytes and lime. Some evidence respecting the last of these, brought forward in a note, forms a very singular exception to the rule which our author seems to have laid down, of never quoting the authority of a contemporary practitioner. When it is known by whom any particular practice has been introduced, revived, extended, or restricted, we naturally expect to find the obligation acknowledged; but in a disputed question, upon which many gentlemen of extensive experience and accurate observation have delivered their opinions, it appears injudicious at least, to quote the authority of any one of them, as if it alone were decisive of the point at issue. So far as our practice extends, and it has been pretty extensive, our conclusions are nearly the opposite of those here stated. We have never seen prejudicial effects from the use of muriate of lime, and we have often seen it improve the appetite and general health.

Our author, lastly, comes to the surgical treatment of scrofula, and here his observations being more minute, are of greater value; although we cannot, by any means, coincide in his mathematico-pathological doctrine of contradictory indications, which is indeed so curious, that we must quote it.

"In all cases, the simultaneous existence of contradictory indications presents one of the greatest difficulties in practice. It is obviously impossible to fulfil both indications at one time; so that the surgeon is often obliged to make a compromise between two opposites which cannot be reconciled, or to sacrifice one of the indications, when it is comparatively of little value in respect of the other. In the former of the two cases which was the subject of reference, the difference between the opposite indications might be called a permanent quantity, as the swelling on the hand was a chronic complaint, and the state of the constitution uniform; so that, with regard to this point, it was immaterial at what period of the case any alteration was made in the regimen of the diet. Neither was it a matter of much delicacy, in other respects, since the balance was not so nicely poised as to subject the patient to danger by the experiment. A diminution or augmentation of allowance required time to operate, and exhibit visible effects, which were always apparent in sufficient time to permit of a seasonable change, when the practice appeared to decline too much to the one or to the other extreme. In this way, the variation might be said to oscillate within determinate limits, which no prudent practitioner had any chance to exceed, and in which repeated trials would at last ascertain that mode of living which was best accommodated to the circumstances of the case.

" The second case was a direct contrast to the first, in some of the most essential particulars. The difference between the contradictory indications was perpetually varying, which made any steadiness of the compensation impracticable; for those scrofulous symptoms, which afterwards became an object of the most interesting attention, had no existence at the commencement of the case. Or, supposing them to have broken out at once in the utmost virulence which they ever attained, their consequence was completely sunk in the superior importance of the internal læsion of the head; for, at all times, every other consideration must yield to the urgent symptoms of an oppressed brain. There is no temporising in such cases; and if there was any interference between the two sets of indications, there could not be the smallest hesitation in making a sacrifice of those which regarded the scrofulous symptoms; because, whenever there is any tendency to fulness about the head, the slightest transgression of a regulated diet may be instantly followed by the most dangerous consequences, and produce irretrievable mischief; whereas, a protracted course of abstinence, though it may aggravate scrofulous symptoms, does not render them incurable. Thus there arises an absolute necessity to make a sacrifice of one set of opposite indications, when the disparity of their value is so great.

" With regard to the variation in the relative importance of contradictory indications, it is plain, that how transcendent soever the superiority of the more urgent indication may be at first, yet if its urgency be constantly on the decline, while that of its opposite is constantly on the increase, the difference between them will insensibly diminish till they pass one another, and till the urgency of that which was originally the inferior comes at last to preponderate. After this manner the most imperative indication ultimately vanishes altogether, and is no longer an object of attention; on the contrary, the nascent degeneracy of a sore which seems undeserving of notice at its commencement, will, by increasing malignity, attain a degree of consequence which demands the most active interposition. In these opposite progressions, there is a point of time at which the relative importance of the contradictory indications is transferred from the one class of symptoms to the other; and, in the management of certain interesting cases, it is a matter of equal delicacy and importance to seize the moment of transition with accuracy, lest, by an injudicious perseverance in the original line of practice, effects may be produced which cannot afterwards be counteracted. "

The observations on the circumstances in which scrofulous tumors are to be opened, and the mode of doing it, coincide with the rules laid down by the best practical writers; but it is necessary to correct a mistake our author has fallen into, in stating that the oppressive symptomatic fever, occasioned by the putrid slough, which sometimes occurs in extensive scrofulous sores, is the *foul fever* of foreign writers. The *Faulfieber* of the Germans, which he probably had in contemplation, is not a symptomatic disease, but our *putrid typhus fever.*

The rest of the treatise is occupied with observations on the topical treatment of swelled glands. Under the last head he mentions the use of friction as a discutient.

> "Friction, indeed, has long been employed for this purpose; but, of late years, it has been introduced to an extent, and with an effect, far beyond the experience of all former practice. As yet, it has been circumscribed to the practice of *a very few individuals*, with whom it is said to have performed very great cures; and if, upon the test of more extensive experience, it is found to answer its present high character, I shall consider the use of repeated frictions to be one of the most valuable improvements which has been introduced into practice in modern times. The safety and simplicity of the practice recommend it very strongly to favour, though I am afraid they are the very circumstances which retard its adoption by the public in general. I only regret that I do not feel myself entitled to give a decided opinion upon the subject from my own experience, though I have known some instances of successful cures; but the reports of success are so numerous and so well supported, that I am inclined to think very favourably of the practice.
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> "There is no substance interposed between the surface of the swelling, and the hand of the person who administers the friction, excepting a little flour, to prevent the abrasion of the skin. The friction is applied regularly two or three hours every day, with great celerity, the hand being made to move to and fro one hundred and twenty times in a minute, and the course may require to be continued, without interruption, for some months." p. 134, 135.

As our author is inclined to think favourably of this practice, he should mention the name of the gentleman by whom it was introduced, and has been most extensively employed; by so doing he would have both gratified the curiosity of his readers, and done justice to Mr Grosvenor, an eminent surgeon at Oxford.

Our account of this pamphlet has extended to a greater length than was intended, or perhaps necessary; but we cannot conclude, without noticing the style in which it is written. Our author himself alludes to it in his preface. This treatise was originally composed "in the form of a spoken discourse, and still, in some measure, retains the character of this style of composition. The great object was to convey information in a plain and simple manner." Such, indeed, ought to be the object of all didactic discourses, whether spoken or printed; but we cannot allow the merit of plainness or simplicity to a style, in which we meet with such expressions as "*at last*, *however*, *often*, *indeed*, *after* the lapse of a long time," p. 110; "other hereditary diseases exhibit a like interruption of continuity," p. 5; "the frequency, *and often universality* of such swellings," p. 11; "the shades of difference in the composition of the attack," p. 21; "the local symptom becomes the *great dictator* of practice," p. 89; or such superfluity of words as "a totally different situation *of circumstances*," p. 46; "higher temperature *of heat*," p. 57; "without *the aid of* artificial assistance," p. 111; "when a tumor has been long pointing to burst, *but* (and) *proceeds with a very slow progress*," p. 118; or such errors as "the primary attack too often admits of an apparent cure, while *their* (its) sequelæ," p. 27; "distinctness and prominence *depends*," p. 9; "whiteness and paleness *favours*," p. 10; "frequency and universality *has*," p. 11, &c. &c. Indeed, our author seems from principle to deviate from the established rule of English grammar, that two or more nominatives in the singular require the verb in the plural. But the inelegance and singularity of the style, with all its grammatical peccadilloes, are slight blemishes compared with its obscurity, which wearies the attention of the reader, and either leaves him in doubt respecting the author's meaning, or is at last resolved into a profound truism. "*The distinctness and prominence* of those different symptoms depends (depend) upon the *extent of the predisposition* to scrofula; AS they (the symptoms) are more or less evident (distinct and prominent) according to the *degree of contamination in the constitution of the individual*," (extent of the predisposition) p. 9. "The quickness of pulse, and hectic feverish state, is (are) sometimes the effect of mere weakness, in which case it (the weakness) is relieved by rest and nourishing diet, and goes off gradually as the patient recovers strength," p. 29. Death has often been said to be a cure for all diseases; and it certainly will not be disputed, that it is an unfavourable termination of the cure of scrofula. "It is, however, only the extreme cases that go rapidly wrong; the ordinary rate of progress is more slow, and then a hectic fever supervenes before the *cure terminates unfavourably*." p. 115.

IV.

Remarks on the Inaccuracy aud Uncertainty of the present Method of Compounding Medicines by Drops; together with some Hints which may lead to greater Correctness in future. Read before the Liverpool Medical Society, by C. SHUTTLEWORTH, Surgeon. 8vo. Liverpool, 1808. pp. 24.

THE value of this little tract is not to be estimated by its size. It is of much importance, in the practice of medicine, to be able to regulate exactly the quantity of medicines prescribed. This may be done in almost every case by careful weighing; but as it is troublesome to weigh fluids, these are generally measured when the quantity is considerable, or dropped from the mouth of a phial when it is very small. Measurement at ordinary temperatures is sufficiently accurate for most purposes; and the chief objection to it arises from the same term being used to denote certain measures which commonly denote certain weights, from these corresponding, or nearly so, with regard to water. Thus, when a pound, ounce, or drachm of water, or of fluid having the same specific gravity, is prescribed, it is immaterial whether they be weighed or measured; but when these ambiguous terms are applied to fluids of a very different specific gravity, mistakes of great importance may and often do arise.

The method of ascertaining small quantities of fluids, by dropping them from the mouth of a phial, is a still more pregnant source of error, as there is a difference in the size of the drops, not only of different fluids, but even of the same fluid at different temperatures, from different phials, and from different parts of the lip of the same phial. The experiments of Mr Shuttleworth, have shown these differences to be even greater than they were supposed to be.

"It is a fact familiar to you all, that the size of a drop of any fluid is materially altered by the lip of the vessel from which it falls; but I confess that, for a short time, I was puzzled at the different results which were obtained by some of my friends in my presence, though they employed the same phial and fluid which I myself had used. The difference in an equal number of drops amounted to a fifth, a fourth, and even, in some instances, to a third part of a drachm by measure.

"In order to discover the cause of a difference so extraordinary, we marked the points of the lip of the phial from which the fluid was dropped, and each of us dropping the fluid from the same point of the lip, it appeared that our results were the same. It further appeared, that a variation in the size of a drop, too considerable to be overlooked, may be occasioned by the greater or less thickness, or by a difference in the shape of the lip of even the same vessel, independently of either the nature of the fluid, or the size of the phial in which it may be contained. But as it became necessary to adopt some standard, we endeavoured to discover a point in the lip of a bottle, which should produce drops of water of such a magnitude, that sixty would be exactly equal to the drachm-measure. After various trials, we found that the mouth of a measure, already in my possession, was precisely what we wished to procure; and that it would enable us to perform our experiments with peculiar exactness, admitting of no deception, since its form would prevent us from varying the exact point whence the drop would issue. We had next to provide ourselves with a pair of scales; and we made choice of those which are contained in Dr W. Henry's test-box, and which are well known to be constructed with the nicest accuracy of beam. The result of our inquiries was invariably as follows.

			GRAINS.		DROPS.
One drachm by measure of	Distilled water	weighed	60	equal	60
	Solution of Arsenic, Dr F.'s	——	60¼	——	60
	White Wine	——	58¼	——	94
	Ipecacuanha Wine	——	59¼	——	84
	Antimonial Wine	——	59¼	——	84
	Rectified Spirit of Wine	——	51½	——	151⅔
	Proof Spirit	——	55¼	——	140
	Laudanum	——	59½	——	134
	Tincture of Foxglove	——	58	——	144

"Allow me here to state a fact, which we * were not able satisfactorily to explain. After the commencement of the frost, which was accompanied with snow, we were induced to try whether a drachm of distilled rain or spring water differed as to the number and specific gravity of their drops; when, after repeated trials, we found that neither the one nor the other would produce above forty-five or fifty-two drops to the drachm. The temperature of these fluids was similar to that of the water first used, and differed in no quality that could be ascertained. I leave it to the Society to conjecture, whether any electric or galvanic influence could have occasioned results so different from those of our previous experiments.—Hence arises a new and important objection to the use of drops as a measure of quantity."

These

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* Dr Lewin and the Author.

These valuable facts, which we wish Mr Shuttleworth had extended to other classes of fluids, sometimes measured by drops, as etherial spirits, acid and alkaline liquors, solutions of neutral and metallic salts, are, however, abundantly sufficient to demonstrate, that the practice of prescribing medicines by *drops* should be laid aside and abolished.

So far we agree with Mr S.; but we do not approve of his proposal of restricting the use of Mr Lane's *drop-measure* to water and aqueous fluids, and of graduating a *spirit-drop* measure and a *wine-drop* measure, the degrees of which should be in bulk to those of the *water-drop* measure inversely as 140 to 60 in the former case, and as 84 to 60 in the latter. We object to this proposal, because it is a great deal too complicated to be attended to by druggists' lads and apothecaries' apprentices; because the measured drops will not correspond truly in all cases with the number of real drops; and because, as it is right to supersede altogether the practice of *dropping*, there is no advantage derived from the measure corresponding with the drop. On the contrary, along with the dangerous practice of *dropping*, we would proscribe the very name of *drop*, and all reference to it. We are satisfied that small quantities of fluids will never be weighed with sufficient attention. They must therefore be measured; and we see no objection to the drachm measure now in use, except the application of the terms *drachm* and *grain* to measures of bulk. But, although it is desirable that the ambiguity arising from this source, should be altogether removed by the introduction of some new term, it is comparatively of little consequence, because there is no danger of druggists or apothecaries ever weighing instead of measuring small quantities of fluids; and because, even were they to weigh their grains, when it was intended they should measure them, or *vice versa*, the error is very trifling: in tincture of foxglove, for example, it would be only 58, instead of 60, or 60, instead of 58; whereas, in the same tincture, a blunder between weighing and measuring drops, would amount to no less than 144, instead of 60, or 60 instead of 144. All Mr S.'s objections to the use of Mr Lane's *drop-measure*, will be completely removed by calling it in future a *grain-measure*.

Mr Shuttleworth's family measure, divided into the proportions of one drachm, two drachms, half an ounce, one ounce, an ounce and a half, &c. under the appellation of tea and table spoons, must be an acquisition in families in which great quantities of drugs are swallowed; and may be certainly recommended not only as a safe and clean measure, but also as economical; for spoons are apt to be injured, from being used in administering medicines.

Mr Shuttleworth's experiments are also deserving of notice, in a scientific point of view. It appears from them, that the size of the drop, or cohesion of the fluid, has no relation to its specific gravity; for 60 drops of water are equal in bulk to 134 of laudanum, although their specific gravities scarcely differ. It also appears from them, that the cohesion or size of drop of the menstruum remains sometimes unaltered by the substance dissolved in it, as in Fowler's arsenical solution; is sometimes increased, as in laudanum, ipecacuanha and antimonial wine; and what is truly surprising, is sometimes diminished, as in tincture of foxglove. But an extensive series of experiments would be required to explain these anomalies, or arrive at any general conclusion.

V.

The Trial of Charles Angus, esq. for the Murder of Margaret Burns. Taken in Short Hand by WILLIAM JONES jun. 8vo. Liverpool, 1808. pp. 288.

A Vindication of the Opinions delivered in Evidence by the Medical Witnesses for the Crown, on a late Trial at Lancaster for Murder. 8vo. Liverpool, 1808. pp. 88.

Remarks on a late Publication, entitled, " A Vindication of the Opinions delivered in Evidence by the Medical Witnesses for the Crown, on a late Trial at Lancaster." By JAMES CARSON, M. D. 8vo. Liverpool, 1808. pp. 136.

WE recommend, in the strongest manner, the perusal of these publications to our readers; in the first they will find fully reported, a trial which will excite many serious reflections; and in the others, the investigation of some of the chief points connected with it.

On Sunday the 27th of March 1808, at noon, Dr Rutter was desired by the Coroner of Liverpool to take with him an experienced surgeon to the house of Mr Charles Angus, there to examine the body of a young lady who had died suddenly. The examination took place at two o'clock the same day; and the following report on the subject was presented to the Coroner in writing.

"On our arrival at the house, we were introduced into a parlour, where we found Mr Angus, with some other persons to us unknown; and we delivered to him the note from the Coroner as the authority under which we acted. Upon perusing it, he expressed perfect willingness that the examination should be made. We were then introduced into the room up stairs, where the body of the deceased was laid. Before we proceeded to examine the body, we inquired of Ann Hopkins, the cook, how long Miss Burns had been ill—when she died—and what symptoms of disease she had manifested: And we were informed by Ann Hopkins, that Miss Burns had been ill two days; had died on Friday the 25th inst. at a quarter past eleven in the forenoon; and that she had been affected with sickness, and looseness, and shortness of breathing, but with no other complaint. After having removed the body, a small stain of blood was observed on the sheet of the bed on which it had laid; and the pillow was stained with a fluid which had issued from the head. The body being laid on a table, a large quantity of a thin yellowish fluid poured out from the nostrils, and was collected in vessels. No marks of external violence were discovered on the body; nor was there any appearance of commencing putrefaction. The nails of the fingers were of a bluish colour; and the veins on the external surface of the *abdomen* or belly appeared to be much enlarged. At this period we were joined by Mr Christian, surgeon.—On opening the *abdomen*, a considerable quantity of fluid was found to have been effused into that cavity, similar in colour and smell to that which issued from the nostrils, but more turbid. Marks of inflammation were found on the external or peritoneal coat of different portions of the small intestines; but the large intestines were free from it. The external coat of a part of the smaller curvature of the stomach was also inflamed; and a similar appearance of inflammation was observed on a small portion of the anterior edge of the liver, directly over the smaller curvature of the stomach. On raising up the stomach, an opening through its coats was found in the anterior and inferior part of its great curvature; and from this opening a considerable quantity of a thick fluid of a dark olive colour issued; of which fluid some ounces were collected and preserved. The natural structure of the coats of the stomach for a considerable space around this opening was destroyed; and they were so soft, pulpy, and tender, that they tore with the slightest touch. Around this part of the coats of the stomach, there were no traces of inflammation whatever. The stomach was then taken out of the body; and its inner surface was carefully washed; and the contents washed out were preserved. A quantity, about three ounces, of a fluid resembling that in the stomach, but not quite so thick, was also taken out of one of the small intestines, and preserved.

"On examining the womb, it was found to be very considerably enlarged, and, on its inner surface, the part to which the *placenta* or afterbirth had adhered, was very plainly discernible. This part was nearly circular, and occupied a space of about four inches in diameter.

The mouth of the womb was greatly dilated. In a word, the appearances of the womb were such as might have been expected a few hours after the birth of a child nearly full grown.

" The fluid taken out of the stomach and intestines, and cavity of the *abdomen*, as well as that collected from the nostrils, was taken away; and afterwards, in the course of the same day, examined, and subjected to various trials, with a view to discover the presence of such mineral substances as were likely to produce appearances or effects similar to those which were found in the stomach of the deceased. In this examination, we thought it right to request the assistance of Dr Bostock. The contents of the stomach were, as has already been mentioned, of a dirty olive colour, thick, and of an acid smell. A considerable number of large globules of a dark coloured, dense, oily fluid, floated upon them; but of no particular smell that we could discover. We could not discover, in the contents of the stomach, by the smell, the presence of any known vegetable substance, capable of producing deleterious effects when introduced into it. The fluid contained in the stomach deposited no sediment; nor was any but a mucous sediment found in the water with which the inner surface of the stomach was washed. Upon subjecting the contents of the stomach, in the state in which we found them, to such tests as are deemed sufficient to detect the presence of any active preparation of mercury or arsenic, we could not detect either of these substances. The contents of the stomach were then filtered, and subjected to the same trials, but with the same result. These trials were made at Dr Bostock's, in the presence of Dr Gerard and Dr Rutter."

In the notes of the trial, and subsequent parts of the Vindication, some additional circumstances are stated. The preternatural opening in the stomach was larger than a crown piece; but Mr Hay thinks he may have increased it in drawing down the stomach, as it was nearly in the centre of the disorganized portion, where the coats were thin, soft, and semitransparent. The stomach was nearly full of the fluid described, but not distended. The intestines also contained a great deal of a similar fluid; and the internal villous coat of the duodenum was slightly inflamed, while its external coat was also more inflamed than that of the other intestines.

" The *uterus* was so enlarged as to be capable of containing nearly a quart of fluid. The *os uteri* and the soft parts were also greatly dilated. Before the *uterus* was removed from the body, Mr Hay placed his left hand upon the *fundus uteri*, and introduced his right hand with the greatest ease into the *uterus*, until the fingers of his right hand could be felt by those of his left, through the *fundus*. The *uterus* being taken out of the body, an incision was made along its whole length, and its cavity laid open. The whole internal surface of the *uterus* was bloody; and near the *fundus*, there was a well defined circular space, of a deeper colour than the rest of the internal surface, and about four inches and a half in diameter. This space was rough and rugged, and a small fragment of what appeared to be the *placenta* still adhered to it; and the blood-vessels opening upon it, were distinctly visible, and as large as a crow-quill; whilst every other part of the internal surface was smooth. The walls of the *uterus* were about half an inch in thickness. There was no coagulum in it. The *os uteri* remained in so dilated a state, that the four fingers of a hand, drawn together into the form of a cone, would pass through it, without in the slightest degree distending it. Vagina ipsa admodum dilatata fuit. Labia ejus fuerunt livida, et undique sanguine fœdata.

" The *uterus* was again particularly examined on the 14th of September, in the presence of Dr Brandreth, Mr Park, and Dr Lyon, who were so obliging as to meet us for this purpose, and for the purpose of examining the *ovaria*; and although it had been kept in spirits nearly six months, yet the part to which the *placenta* had adhered was still rough; and the openings of the vessels, in that part, were still discernible, whilst all the rest of the *uterus* was smooth. The *ovaria* were then, for the first time, divided; and a *corpus luteum* was distinctly perceived in one of the *ovaria*.'

We now proceed to give a history of the symptoms which preceded Miss Burns's decease, nearly in the words of the witnesses on the trial.

About six o'clock on Wednesday morning the 23d of March 1808, this unfortunate young lady was seen by the servants of the family in her usual state of health; but replied to one of them, who remarked her having risen earlier than usual, that she could not sleep.

She was next seen by the servants at about a quarter before nine, sitting at breakfast with Mr Angus, but apparently very ill. After breakfast, she was lying on a sofa, still very bad, complaining that she was poorly, and of a pain in her bowels; but she was not then sick. On moving about afterwards, she held by the chair, as if from pain, and, about an hour and a half after breakfast, she ordered some water gruel, of which she drank near three quarts in the course of the day. She continued very thirsty, in pain, and sick the whole day, vomiting frequently, and rejecting the gruel almost immediately after taking it. What she vomited was described by the house-maid as at first very black, but towards the last becoming of a green colour; but the kitchen-maid described it as at first green, with bits of yellow in it, like the inside of an orange, or yolk of an egg, and as turning blacker after it ceased to be green. When she was retching, Miss Burns observed to the house-maid, " Oh, Betty, what bile comes off my stomach! I wish I had taken an emetic long since." On the servants going to bed that night, she seemed very poorly, but did not complain to them.

On Thursday morning, at six o'clock, she was lying, as she had been left the night before, on the sofa, with pillows under her head; she complained that she was very thirsty; said she was tired of gruel, and got some water-posset and a little warmed beer. She also complained that she was badly hurt to make water; but was relieved by sitting on an onion, sliced, with some boiling water poured upon it. This morning her vomiting was of a blacker colour, and she continued sick and vomiting all day, till towards evening, when the sickness went off, and she appeared better, and could stir more about.

On Friday morning, at four, the house-maid went into the room, and thought her much worse, as she breathed quicker than before. She was seen again about six, in much the same state, and lying in the same posture on the sofa. She asked for some warm beer, which settled on her stomach, and she also got about a pint of gruel. She said that the pain had left her. Her vomiting had ceased, but was succeeded by a *lax*, which continued all the morning. A little before ten, the house-maid was sent out for some Madeira, Miss Burns having asked for some. Between ten and eleven, the kitchen-maid was in the room, and received orders about dinner. Miss Burns said she would have some barley-water. On the return of the house-maid, about eleven, she went straight into the parlour, and Miss Burns was found lying dead in the corner, by the door, with her face against the wall, cowered of a lump, her elbows upon her knees, and one foot *crudled* under her.

During the whole course of her illness, she did not go to bed, but remained in the parlour, generally lying on a sofa. She refused to have medical assistance; but Mr Angus said he gave her seven drops of laudanum one night, and ten drops another, and on the morning of her death some castor oil in spirit, which came up immediately.

Concerning her previous state of health, the evidence was contradictory; the witnesses for the prosecution swearing that she appeared in good health, but had every appearance of being pregnant; while the witnesses for the prisoner swore, that, for twelve months before her death, she had been very poorly, and had been irregular for some years; that she had a great difficulty in breathing; and complained that she was much puffled and swelled, and was afraid of dropsy; that some weeks before her death she was observed to be uncommonly flat-bosomed, and not half so plump as she used to be in health, but swelled at the stomach; and that she had no appearance of being pregnant.

In consequence of the suspicious circumstances attending the death of Miss Burns, Mr Angus was indicted for her murder;

but, after a very long and patient trial, on the 2d September 1808, was acquitted.

In the course of this trial two very interesting professional questions occurred:

1. Whether Miss Burns had died from the effects of poison?
2. Whether she had been delivered of a child recently before her death?

Upon both of these a great difference of opinion existed among the medical witnesses examined, which has given rise to publications on both sides. We do not regret the keenness of the dispute, as it is calculated to attract notice to the subject of the discussion, and to show medical practitioners in general, the necessity of the utmost diligence in preparing themselves with the most minute and accurate knowledge of the subject upon which they are to give evidence, not only for the purpose of ascertaining the truth, but also for the sake of their own character and reputation, which may suffer materially and unjustly from an appearance of hesitation or of rashness, and from their being betrayed into apparent contradiction or ignorance in their opinions, by unexpected and artfully contrived questions.

Did the symptoms which preceded Miss Burns's death prove or disprove the idea of her having been poisoned; or did they render that idea probable or improbable? They certainly do not *prove* that she was poisoned; and Dr Carson even thinks that the contrary is proved, especially by the general mildness of the symptoms, and by the absence of, as he says, nearly all the symptoms which attend the administration of poison. The first argument is scarcely worth noticing. The severity of symptoms are not to be estimated by the complainings of the sufferer, but by their effect. In the case of Miss Burns they proved fatal in 50 hours, a period by no means incompatible with the idea of poison. Poisons may be divided into two classes, the acrid and the narcotic. In the present case, all idea of the latter is excluded, by the total absence of delirium, and of other nervous symptoms; but, on the other hand, the symptoms which were remarked, pain, constant vomiting and purging, dyspnœa, and difficulty in making water, were such as commonly would, and actually did, excite the suspicion that they were the effects of some acrid poison, especially when we consider the suddenness of the attack, and the great improbability of their being excited at that season of the year (March) by any natural disease, such as *cholera morbus*. It is indeed possible that they may have been produced by severe labour pains and mismanagement. In his evidence (Trial, page 207), Dr Carson argues, from the absence of convulsions, that Miss Burns had not been poisoned; but, as the reporters have satisfactorily shown (Vind. p. 47), convulsions do not always precede death from acrid poison. Accordingly, in his remarks, we hear no more of the argument from convulsions, but a new one is started from the absence of delirium: This, however, is equally unavailing; for delirium, so far from being a constant, is not even a frequent effect of acrid poison. In fact, Dr Carson seems to have been misled, by trusting to the general account of the effects of poisons in systematic works, in which the effects of various poisons of different natures, on different animals, and in different doses, are enumerated, although they probably never occurred in combination in any one individual. The truth is, that the effects of poisons have been much too rarely and carelessly observed, to admit of any general description of them. Those who may be called upon to speak concerning them, must have recourse to the study of individual cases; and even most of these they will find to be very unsatisfactory.

Dr Carson seems also to have adopted the vulgar idea, that the bodies of persons killed by poison run more rapidly into putrefaction than those destroyed perhaps by any other cause, and contrasts a very exaggerated description of putrefaction with the absence of it in Miss Burns, to prove that she did not die by poison. But, in doing this, he only shows that he is more eager to advance arguments which may mislead the ignorant, than anxious to discover the truth. He cannot be ignorant that rapid putrefaction is not a constant effect of poison. We shall only quote one case, in which the largest quantity of arsenic ever perhaps taken into the stomach was found. It was examined by the celebrated Metzger eighteen days after death, who remarks, "Cadaver, quod mireris, sine ullo foetore aut putridinis signo erat, ut et absque maculis lividis, si digitorum apices excipias."

Striking as the appearances discovered on dissection were, they do not satisfactorily elucidate the question at issue. So little do we know of the precise effects of poison; so little do we know how to distinguish them from similar effects arising from other causes, that, although the inflammation discovered on the peritoneal coat of the stomach, intestines, uterus, and liver, correspond with the known effects of poison, we cannot with certainty say that they may not have been produced by some other cause. Nay, it is even doubted whether the extensive disorganization of the stomach took place before or after death. This doubt is founded on the observations of John Hunter, who discovered that the stomach was disorganized and corroded in some cases when there existed no suspicion of previous disease. But it is also frequently disorganized and corroded by the action of poison. It therefore becomes an important problem, and what *a priori* would seem an easy problem, to distinguish between the effects of a violent stimulus on the *living* stomach, and the action of a solvent on the *dead* stomach. In the former case we should certainly expect signs of reaction; in the latter none: But we cannot trust to hypothetical distinctions, and must confine ourselves to actual observation. "There are very few stomachs," says Mr Hunter, "in which the stomach is not, at its great end, in some degree digested. To be sensible of this effect, nothing more is necessary than to compare the inner surface of the great end of the stomach with any other part of the inner surface; what is sound will appear soft, spongy, and granulated, and without distinct blood-vessels, opaque, and thick; while the other will appear smooth, thin, and more transparent; and the vessels will be seen ramifying in its substance; and upon squeezing the blood which they contain from the larger branches to the smaller, it will be found to pass out at the digested ends of the vessels, and appear like drops on the inner surface." Again, he observes, "that when the stomach is actually perforated, the edges of this opening appear to be half dissolved, very much like that kind of dissolution which fleshy parts undergo when half dissolved in a living stomach, or when dissolved by a caustic alkali, viz. pulpy, tender, ragged." Lastly, "I found these appearances most frequent in those who had died violent deaths." With this description Miss Burns's stomach coincides in many particulars. It chiefly differs in the injury being situated in the anterior and inferior part of the great extremity, where it is not probable that the contents of the stomach could act upon it after death; in the blood-vessels not being visible in the injured part; and in her death being preceded by violent illness. Whether these circumstances are of themselves sufficient to prove a difference of cause, we will not pretend to decide.

Inflammation and erosion of the stomach are common effects of acrid poison, but they are also frequently absent. In Miss Burns's case the only peculiarity consists in the erosion being considerable, while the inflammation was slight, rendering it somewhat doubtful whether they both depended on the same cause.

The most certain proof of poison was wanting in Miss Burns's case, as the fluids contained in the abdomen, stomach, and intestines were analyzed by Dr Bostock with uncommon skill, and no traces of poison detected. But the experiments of the same gentleman[*] have taught us, that animals at least may be killed

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[*] See page 14. of this volume.

by corrosive sublimate, without its being possible to discover it in the contents of the stomach by the most minute analysis.

Upon the whole, the suddenness of the attack, the nature of the symptoms, and the appearances on dissection, rather lead us to believe that Miss Burns was killed by poison. Although probably our doubts would not have been removed by it, the examination of the body should have been carried much farther than it was. The gullet especially, and the liver, kidnies, and other abdominal viscera should have been accurately examined, and the thorax, and even the head, should have been opened. We coincide in the general truth of Dr Carson's remarks on this subject, but do not approve of the tone in which they are written.

The other question to which this trial gave rise, admits of a more explicit answer. Did the appearances discovered on dissection prove that Miss Burns had been recently delivered of a fœtus? Of this the gentlemen who examined the body had so little doubt, that they did not conceive that it could be questioned, until Dr Carson gave his evidence. He was of opinion that the uterus of the deceased might have been distended by a collection of water, or rather hydatids, and that the mark which the other gentlemen supposed to have been occasioned by the attachment of a placenta, was occasioned by the attachment of hydatids; and he also urged strongly, from the absence of a coagulum in the uterus, and of the appearances of flooding connected with the distended state of the uterus, that it was impossible that delivery had recently taken place. (Trial, p. 213.) These arguments might be redargued by observing, that the partial contraction of the uterus might have prevented hemorrhage; that death from exhaustion does sometimes follow delivery, without flooding; that hydatids of the uterus are most frequently produced by a diseased state of the placenta; and that, in other instances, they are attended with various morbid appearances; that in this case, the womb exhibited no mark whatever of disease, except the slight inflammation of its peritoneal coat, and that it had every appearance of a healthy womb, from which a fœtus had been lately extruded; but the most complete and irrefragable answer to all Dr Carson's observations, was discovered after the trial, in the presence of a *corpus luteum* in one of the ovaries. This circumstance is of very great importance, not only as proving (though the contrary is most strangely asserted by Dr Carson in his Remarks,) that the appearances observed in the uterus, in the present instance, were perfectly compatible with, and were, in fact, occasioned by pregnancy, but as showing medical practitioners the necessity of not resting satisfied, in judicial examinations, with discovering enough to form their own opinions by, but of leaving nothing uninvestigated which may elucidate the question. It is not sufficient to bring proof against a prisoner; it is the duty of the prosecutor to bring the best proof that can be procured; and, if any such proof be neglected, the prisoner is entitled to argue that it did not exist; for example, in the present case, that the ovaria were examined, that no corpus luteum was found, and hence that all the appearances of pregnancy proved nothing. Had the ovaria been examined before the trial, the testimony of the gentlemen who were in the right could not have been doubted, nor the jury perplexed with contradictory evidence, as is well expressed in the charge of the Judge:

> "With respect to the circumstance of the deceased having been with child, you are put into the place of deciding where doctors disagree. You know it is a common observation that is made in such dilemmas as these, 'who shall decide when doctors disagree?' and yet you are under the necessity of making such a decision in the present case."

We may take this occasion of remarking, that, in cases of doubtful parturition, the proofs are rather to be expected in the appendages of the uterus, in the ovaries, Fallopian tubes, vagina, and areola of the nipples, than in the uterus itself. The appearances in the uterus may be the effect of disease; but such disease never produces those changes in other parts, which are the constant concomitants of pregnancy.

VI.

Practical Observations on the Diseases of the Joints, commonly called White-Swelling, with remarks on Caries, Necrosis, and Scrofulous Abscess, in which a new and successful Method of treating these Complaints is pointed out. A new edition, with considerable additions and improvements, illustrated with seven coloured Plates. By BRYAN CROWTHER, Member of the Royal College of Surgeons, London, and Surgeon to Bridewell and Bethlem Hospitals. London, 1808. 8vo. p. 295.

We are pleased with every appearance of zeal in a practical writer, who has selected some important disease as the object of particular study. Such researches, if steadily pursued, are likely to be rewarded by some useful discoveries. Mr Crowther, having already published on the white-swelling of the joints, is very generally known to have directed much of his attention to the investigation of the pathology and treatment of this disease; and of the zeal with which he has continued to pursue the subject we cannot doubt, after learning, that many of his patients have been selected from the streets, and generously supported at his expense, during their treatment.

After all, however, the principal advantage that will be derived from Mr Crowther's observations, will, we think, be to inspire others with greater confidence in ordinary and well-known methods of cure, and particularly in the effects of drains or issues, especially if these be supported by Mr Crowther's favourite issue ointment, the ceratum sabinæ.

To give full credit to Mr Crowther's experience, after the reduction of inflammatory action in the diseased joint, there seems nothing which a steady and persevering use of drains may not effect, as there is hardly any stage or complication of the disease which may not be relieved by them. We doubt not, that legs have been amputated which might have been saved; but we are sure also, that by far the greater number were parted with to the salvation of the patient's life. In all that we have known, the previous state of the patient's health, and the appearances of the diseased knee on dissection, strongly impressed us with this belief; nor are we yet persuaded, that issues of any kind are capable of restoring the organization of such destruction of parts as takes place in the latter stages of white-swelling.

We are more than once reminded by Mr Crowther, that he has no theoretical notions to support. He regrets, with Mr Pott, that a history of white-swelling is very much wanted, by which "he supposes" that excellent surgeon meant "a clear, just, and accurate account of the appearances, symptoms, and conclusion of the disorder." After this exordium, we expected that Mr Crowther would have supplied the desideratum, or referred us at least to another preceding writer, whom we knew to have already supplied it. No such thing; Mr Crowther's observations, desultory and interrupted, do not present us with such a history; and no notice whatever is taken of the very excellent history of white-swelling, delivered by Mr Professor Russell six years ago. This is the more extraordinary, that Mr Russell appears to have anticipated Mr Lawrence, in what Mr Crowther seems to think a new pathological observation of considerable importance.

Mr Crowther had allowed himself to be deceived (as others indeed had done,) by the external appearance of the knee, into an opinion that the bones were enlarged and expanded; but Mr Lawrence, it seems, about four years ago, set him right.

> "It is now more than four years since Mr Lawrence, anatomical demonstrator at St Bartholomew's hospital, inquired of me, whether I had seen instances of the bones of white-swelling being enlarged; for, if I had, it was a circumstance new to him, as not a single specimen was to be found in the museum of the hospital, or had ever occurred to him, notwithstanding the constant and repeated opportunities which have been afforded him, in collecting and dissecting diseases. My own practice has given me some opportunities, after the removal of the limb, to investigate the actual condition of the joint, and the cases, as far as external examination could determine, would have led any one to imagine the bones were spread; they certainly seemed to be so, yet, upon accurately investigating them, after dissection, they were not in fact the least increased in bulk. I believe this gentleman to be the first person who has made this important remark, which I conceive it the more necessary to notice, as I fear that the idea of the tumefied state of the bones, in cases of diseased joints, might, if not contradicted, induce some practitioners to have recourse to amputation: The public therefore, and myself particularly, are obliged to Mr Lawrence, for this important and valuable practical observation. I would willingly do justice to every writer, as well as practitioner; and hope to manifest such a disposition, by remarking, that Mr Cooper, in a work lately published*, thus expresses himself: 'I have been in the habit of frequently inspecting the state of the numerous diseased joints which are annually amputated in St Bartholomew's hospital; and though I have long been attentive to this point, my searches after a really enlarged scrofulous bone have always been in vain.' This is strong confirmation of Mr Lawrence's opinion: but it is singular, that Mr Cooper should allow to the spina ventosa that expansion which he has denied to white-swelling." p. 13-15.

Now Mr Russell, long before Mr Cooper, who in a publication to be immediately noticed, also ascribes the discovery to Mr Lawrence, and only arrogates to himself the merit of being the first who publicly opposed the old doctrine *with any degree of force*, and two years at least before Mr Lawrence's communication to Mr Crowther, had very explicitly told us the same thing, nay, had pointed out the source of the common error into which Mr Crowther had fallen.

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* First Lines of the Practice of Surgery, and a concise Book of reference to Practitioners. By Samuel Cooper.

> " The great mass of the swelling," says Mr Russell, "appears to arise from an affection of the parts exterior to the cavity of the joint, and which, besides an enlargement of size, seem also to have undergone a natural change of structure. There is a larger than natural proportion of a viscid fluid intermixed with the cellular substance. And the cellular substance itself has become thicker, softer, and of a less firm consistence, than in a state of health. Thus, it approaches somewhat to the nature of an uniform pulpy mass, and by this means undulates when struck, so as to resemble the fluctuation of a fluid, and when gently and regularly pressed, *applies accurately to all the little irregularities of the bone, presenting the appearance of a solid, permanent enlargement.*" And, in other places of the same work, " I have never known, or heard of an instance, in which the tibia was enlarged from an attack of white-swelling.
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> " Some authors indeed have asserted, that the condyles of the femur almost constantly become enlarged; an assertion which is undoubtedly true, provided it be limited to a small number of cases. But if it be stated as a general position, it certainly is not founded in fact. For although I have attended very much to this circumstance, in the dissection of a great number of cases of white-swelling, I have rarely been able to discover the smallest enlargement in the condyles of the femur. I likewise find the accuracy of this observation confirmed, by the report of other surgeons in extensive practice, who have enjoyed excellent opportunities to examine the truth of the fact."

But to return to our author. In the second section, which treats of anchylosis, he shows that this in white-swelling is a much rarer occurrence than has commonly been apprehended. The same observation was made by Mr Russell, who tells us he never met with this kind of termination of the disease, but in children, and that very rarely. Next, Mr Crowther attacks Mr B. Bell for the introduction of the term rheumatic white-swelling. He acknowledges the varieties discriminated by Mr Bell, but thinks they are better and more truly distinguished by the terms acute and chronic.—In this we fully agree with our author.

The observations contained in the 4th section, on the advantages of local bleeding in the cure of white-swelling, are judicious and important; and the hasty opinions of a theoretical writer, Dr Herdman, are treated with deserved scorn.

> " With respect to the advantage of local bleeding in the generality of cases of white-swelling," says Mr Crowther, "and even of phlebotomy in some instances of the complaint, in which very active inflammation has taken place, I can appeal to many patients who have received the greatest benefit from this mode of treatment. Local bleeding should always be first resorted to, and continued for a length of time, until obvious improvement in the joint takes place,

by a reduction of the swelling, and a releasement from pain. Weeks, nay months have past, and nothing else has been done but cupping the joint, the repeated application of leeches, and the continued use of cold saturnine applications."

This antiphlogistic treatment should always precede the use of irritants, and even of blisters or issues, which will otherwise not unfrequently excite attacks of inflammation and pain.

Though cases of white-swellings are sometimes relieved and cured by the spontaneous bursting of abscesses, Mr Crowther cautions us against the opening of abscesses, or their enlargement by incision. If we are reserved in this way, fungous excrescences will much more rarely occur; but even when they do, Mr C. objects to their removal by cautery or caustic.

In cases of true white-swelling, according to our author's experience, mercury can do no good, though often it does harm, by precipitating the patient into a hectic state. Nor has he much greater confidence in the powers of sea air, or sea-bathing. In short, the local treatment is every thing in this disease. After pursuing the antiphlogistic treatment, by local bleedings and cold applications, purulent drains are the best and most efficacious remedies; and often the two are usefully combined. "It is now my practice, he observes, to blister the sides of the joints, leaving the interspace for the occasional application of leeches, which I very generally find necessary during the cure."

Many useful observations are given on the different modes of issues and drains, and important cautions with regard to their management. The blister and savine ointment are preferred, upon the whole, to all the others. The following is the formula for the ointment now used by Mr Crowther.

℞ Sabinæ recentis contusæ, ℔ ij.
Ceræ flavæ. ℔ i.
Adipis suillæ. ℔ iv.

Adipe et cera liquefactis, incoque sabinam, et cola.

It seems almost unnecessary to add, that issues, to be really useful, must be steadily continued for a great length of time, for months at least; and that we are not to lose confidence in them, when they do not at once afford the wished for relief. A great many cases are added by our author, in illustration of the great benefit derived from this method of treatment, even in very advanced states of the complaint.

Although Mr Crowther never once mentions the name of Mr Russell, when treating of white-swellings, he repays this reprehensible neglect in the 9th section, containing remarks on necrosis, by entering into a criticism of Mr Russell's opinions on the production of the new bone in that disease. As this criticism arises chiefly out of some observations communicated to our author by Mr Macartney, rather than follow Mr Crowther, we shall extract, for the information of our readers, the observations of Mr Macartney on the changes which take place in the accomplishment of this curious process; which, however, will not appear very novel to those acquainted with the experiments and observations of Dr M'Donald.

"It happened a few years ago, that a number of specimens of necrosis came into my hands, and some of them at very early periods of the affection. After having injected these with coloured fluid, I was enabled to trace the proceedings of the disease from its commencement. I found that the first and most important circumstance is the change which takes place in the organization of the periosteum. This membrane acquires the highest degree of vascularity, becomes considerably thickened, soft, spongy, and loosely adherent to the bone; the cellular substance also, which is immediately connected with the periosteum, suffers a similar alteration: it puts on the appearance of being inflamed, its vessels enlarge, lymph is shed into its interstices, and it becomes consolidated with the periosteum. These changes are preparatory to the absorption of the old bone, and the secretion of new osseous matter, and even previous to the death of the bone which is to be removed. In one instance, I found the periosteum vascular and pulpy, when the only affection was a small abscess of the medulla, the bone still retaining its connexion with the neighbouring parts, as it readily received injection. The newly organized periosteum, which, for the sake of distinction, one might call the vascular sheath or investment, separates entirely from the bone, after which it begins to remove the latter by absorption, and during the time that this process is carrying on, the surface of the vascular investment, which is applied to the bone, becomes covered with little eminences, exactly similar to the granulations of a common ulcer.

"In proportion as the old bone is removed, new osseous matter is dispersed in the substance of the granulations, whilst they continue to grow upon the old bone, until the whole, or a part of it, is completely absorbed, according to the circumstances of the case.

"What remains of the investment, after the absorption of the old bone, and the formation of the osseous tube, which is to replace it, degenerates, loses its vascularity, and appears like a lacerated membrane. I never had an opportunity of examining a limb, a sufficient time after the natural termination of the disease, to ascertain whether the investment be at last totally absorbed; but, in some instances, I have seen very little remaining. During the progress of the disease, the thickened cellular substance, which surrounded the original periosteum, becomes gradually thinner; its vessels diminish, and it adheres strictly to the new formed bone, to which it ultimately serves as a periosteum.

" The moſt ſtriking peculiarity in the hiſtory of necroſis, you will then perceive to be, the converſion of the perioſteum into an organ poſſeſſing active powers of abſorbing and ſecreting bone ; the ſtructure of granulations ſeems to be beſt calculated for performing theſe offices, as we find it employed for the ſame purpoſes on other occaſions.

" Thus it is well known, that the granulations, which are interpoſed between the two ends of a bone, in caſes of a compound fracture, become oſſified ; and I have obſerved, that the detachment of carious bones in external ulcers, is effected by the granulations of the ſore working their way from the edges, abſorbing indifferently the ſound and dead bone, until the ſeparation of the latter be complete. I am, dear Sir, your, &c. " JAMES MACARTNEY."

Our object, according to Mr Crowther, should be, in the treatment of necrosis, to prevent and obviate the inflammation and destruction of the skin covering the parts affected, by the occasional application of leeches, combined with the use of blisters, and the savine cerate. " If the external parts are kept free from disease, by these means, the absorption of the sequestra will in process of time be expected." The 10th section illustrates the effects of the same treatment in lumbar abscess. Even when the abscesses had pointed, and the fluctuation was perfect and distinct, Mr C., by means of his blisters and cerate, has dissipated the collection, and cured the disease.

" Another caſe of lumbar abſceſs was ſucceſsfully treated in the ſame way. The ſize of the tumor in the loin was ſo large, that it could not be included within a pint baſon ; and there was another ſwelling below Poupart's ligament, of ſmaller dimenſions. That the purulent fluid was contained in one ſac, appeared clearly from the impetus caused by ſtriking the ſuperior tumor, being tranſmitted to the hand placed on the inferior one. I applied a bliſter on the lumbar abſceſs, and dreſſed the part with ceratum ſabinæ. A gradual diminution, and at laſt an entire removal of the ſwelling below Poupart's ligament took place, but no reduction of the tumour in the loin had then ſucceeded ; at length, however, this alſo entirely diſappeared. The manner in which the ſwellings were ſucceſſively removed, afforded an additional proof of the diſcuſſing effect of the means I uſed."

In the next or 11th section, we have observations on the curvature of the spine, and an attack (for Mr Crowther delights in this kind of warfare) on Sir John Earle, his doctrine, and his far-famed machine ; on the seton and Dr Latham ; with another grin at Mr B. Bell. The conclusion is, that the practice of Mr Pott is to be followed in curvatures of the spine.

A case of spina bifida is related in the 12th section, the manes of Mr B. Bell being again invoked by the choleric Mr Crowther.

We are next presented with a section of miscellaneous observations,—the treatment of enlarged and scrofulous glands;—their dissipation by leeching, cold applications, mercurial frictions, electricity, and cicuta;—the good effects of nitric acid as a tonic in scrofula;—cases of hydro-sarcocele dissipated by electricity;—glandular abscesses and scrofulous buboes dispersed by blisters and drains;—phagedenic sores cured by lint dipped in tar, and by the application of bruised sorrel leaves;—utility of issues or artificial drains as a constitutional remedy in scrofula.

The last section comprehends some desultory remarks on scrofulous affections of the hip-joint. In the earlier stage of the hip disease, the limb is elongated, though, in the progress of the complaint, it afterwards becomes contracted and shortened. This last change is plainly to be referred to the contraction of the muscles, and dislocation of the head of the femur. The elongation of the limb has been attributed to the relaxation of the ligaments of the joints, and to the swelling of the acetabulum and head of the femur, or to luxation downwards. The insufficiency of all these explanations is argued by Mr Crowther, whose observations are intended to prove, that the elongation of the limb is the effect of obliquity of the pelvis. Dr Falconer had remarked, that the breadth of the nates on the diseased side is sometimes much increased, though its prominence and firmness are diminished. In two cases under Mr Crowther's care, this is very visible; but the following observation of Dr F. particularly interested our author.

"The tubercle, or lower part of the iſchium, may, in many inſtances, but not always, be diſcovered, by feeling it behind, to be lower on the affected ſide, than the other. A man, now in the hoſpital, is a remarkable inſtance of the difference between the height of the bones on each ſide; and a pelvis of a perſon, who died at the ſame place, and was preſerved there many years, ſhowed it ſtill more ſtrongly."—"I confeſs," ſays Mr Crowther, "that this account puzzled me; and I was induced to wait upon my friend, Mr Lawrence, requeſting he would give it every proper attention. Mr L. then mentioned to me a converſation which he once had on this ſubject with Mr Long; in which that gentleman informed him, that Mr John Hunter had attributed the lengthening of the limb to the ſituation of the pelvis; and that he (Mr Long) had found the obſervation correct in every inſtance in which he had attended to that point. Not long after, two caſes of diſeaſed hip in children came under my care; and I felt particularly happy in having Mr Lawrence's aſſiſtance and judgment in determining the accuracy of Mr Hunter's obſervations.

"We inſtituted, in both theſe caſes, a very cloſe and minute examination, and noticed the following particulars. When the patients were laid on the table with the whole body in a straight line, the anterior superior spinous process of the ilium on the affected side was lower than that of the sound side, just in proportion to the difference in the length of the two limbs; this was about a quarter of an inch in one patient, and a full inch in the other. A similar obliquity of the pelvis was equally manifest from behind, when the patients were placed on the abdomen, with the precaution of laying the body in a straight line. It was impossible to place the pelvis in its natural horizontal position, without bringing the body into a curved line; and when we did this, the lower extremities, instead of falling straight under the body, deviated from the perpendicular towards the diseased side. A straight line, drawn along the spinous processes of the sacrum, and continued downwards, did not fall between the lower limbs, as it would in a pelvis possessing its natural position and bearing, but it touched the heel of the sound side.

" The obliquity of the pelvis, in these cases, can, I think, be ascribed to no other cause than that of the patient's endeavouring to throw the weight of the body, as much as possible, on the sound hip. The pain, and the general weakness of the affected limb, induce a constant effort of this kind; hence, we observe children bending the knee and hip, and hopping about on the sound limb. The pelvis naturally sinks on the diseased side; and this deviation, which would affect the centre of gravity of the whole body, is counterbalanced by a bend of the upper parts of the trunk towards the sound side. Accordingly we found, that both the patients inclined the head very manifestly over the sound shoulder."

VII.

A Treatise on the Diseases of the Joints, being the Observations for which the Prize for 1806 *was adjudged by the Royal College of Surgeons in London.* By SAMUEL COOPER, Member of the above College, &c. 1807.

THERE are two classes of authors; one aim at novelty and originality, despising the labours of their predecessors; another walk in a more humble path, and, by collecting from the works of others analogous facts and observations, in addition to their own experience, are enabled to draw some important conclusions, both in the practical and theoretical branches of science. Of the former class may be ranked the author of the present volume. " I have made no intentional effort," says he, " to *dazzle* the judgment of my readers, by an ostentatious list of authors in the margin; quotations from *old books*, which are now almost as *dead* as the men who wrote them; or by the tinsel decorations of composition. The books which *I* have quoted in the course of this production, are only cited to illustrate important facts, or to expose erroneous doctrines. The empty display of extensive reading is what *I sincerely despise.*"

It is not necessary for us to point out the revolting arrogance of this introduction. When we find an author *affecting* to despise the labours of his predecessors, we are always inclined to suspect him of the intention of pilfering from them; and when we find him taking credit to himself for not attempting to dazzle the judgment of his readers by the decorations of composition, or any other laudable means, we are pretty certain that it is the very thing he has been attempting to do. A man may write carelessly, but to boast of it is an insult to his readers; and it is possible to write a book without referring to a single authority, although hundreds should have written equally well, or better, on the same subject; but his work will neither be rendered more valuable, nor will his character be raised by the omission of the sources to which he has been indebted.

Mr Cooper, however, to do him justice, has sinned chiefly in this ill-advised period of his introduction. The work itself is sufficiently well written, though full of egotism, and betrays no great want of reading on the part of its author.

After having made a few observations on the structure, our author treats of the inflammation of joints, and particularly of the knee. He does not seem to have made any minute investigation of the morbid changes produced by this disease; and the treatment proposed is nothing but what is generally practised and laid down in all systems of surgery.

What our author has said regarding the moveable bodies of the joints, is a mere recapitulation of the observations of Mr Hunter, which are so fully related in Mr Home's paper on the subject, in the Medical and Surgical Transactions, Vol. i. and in Mr Abernethy's Surgical Observations. Some critical remarks are made on the account which Mr Russell has given of the mode in which these bodies are formed.

Some strictures are afterwards made on the different places of the knee-joint, where it has been proposed to make an incision to remove them, when that operation is unavoidable. In all cases, however, where they do not give great inconvenience, or where they can be kept from getting between the articulating surface by a proper bandage, any operation should be avoided, as it is often attended with much pain, and, in some instances, even with danger.

The remarks on collections of fluid in the capsular ligaments are extremely superficial; nor are there any practical remarks in the account given of the white-swelling of the knee, or on the diseases of the hip, which we consider particularly worthy of attention.

VIII.

A Letter on the Differences in the Structure of Calculi, which arise from their being formed in different parts of the Urinary Passages; and on the Effects that are produced upon them by the internal use of Solvent Medicines, from Mr William Brande to Everard Home, esq. F. R. S.

Some Observations on Mr Brande's *Paper on Calculi.* By Everard Home, esq. F. R. S.

[*From Philosophical Transactions, Part II.* 1808.

These are two very interesting papers. Their object is extremely important to the chemist and to the physician, and affords a good example of the advantage which medicine may derive from chemical researches. Mr Brande was favoured with an opportunity of examining the calculi in the museum of the late John Hunter; and, as the collection is large, and the greater part of the specimens have histories annexed to them, he flattered himself that he was enabled to ascertain some circumstances respecting their formation. The arrangement which he proposes is not at all more clear and perspicuous than that which Dr Wollaston has already given; nor, in a practical view, is it entitled to any preference. We were surprised to find no mention of Dr Wollaston's name in the course of this communication; because the members of the Royal Society cannot surely have forgotten how much the science of animal chemistry is indebted to their learned secretary, for his discoveries in this particular department. Let the French boast of their brilliant discoveries; let others claim the praise of priority if they choose; but posterity will do justice to the rights of modest genius and merit; and the name of Wollaston will be always made known as the first chemist who distinctly pointed out the varieties of urinary calculi.

In the examination of the Hunterian museum, Mr Brande was struck with the small number of calculi, composed of pure uric acid,

acid, because he had been led, from the experiments of Fourcroy, and Vauquelin, and Dr Pearson, to consider those the most common. Uric acid constitutes the first species, according to Fourcroy and Vauquelin's arrangement; and one-fourth of the six hundred calculi examined by them belonged to it. "The following is a statement (says our author) of the composition of the different calculi found in the bladder which I have examined.

" 16	were composed of uric acid.
45	——— uric acid, with a small relative proportion of the phosphates.
66	——— the phosphates, with a relatively small proportion of uric acid.
12	——— the phosphates entirely.
5	——— uric acid, with the phosphates and nuclei of oxalate of lime.
6	——— chiefly of oxalate of lime.
150 "	

Fourcroy calls his second species (supposed to consist of one ingredient) *urate of ammonia*; and observes, that it is easily detected by its rapid solubility in the fixed alkalies, and by the odour of ammonia which is perceived during its solution; but Mr Brande thinks that the evolution of ammonia depends, in all instances, upon the decomposition of the ammoniacal salts contained in the calculus, more especially of the ammoniaco-magnesian phosphate; and that no substance, which can be called *urate of ammonia*, exists in urinary calculi. To this article of belief, we are induced, from many experiments made by ourselves, to subscribe; and, as far as our observation goes, ammonia is always disengaged during the solution of a stone composed of uric acid in caustic potash, which is owing probably to the animal matter contained in those calculi, besides the ammoniacal salts so frequently combined with other substances. Hence the distinction made by the French chemists, between uric acid and urate of ammonia, has always appeared to us to be without any real difference.

Whenever any extraneous body makes its way into the bladder, it is soon encrusted with phosphate of lime; uric acid is never observed to be deposited upon foreign substances. Four calculi in Mr Hunter's collection were examined, having the following extraneous substances for their nuclei: 1. a common garden pea. 2. a needle. 3. a hazel nut. 4. a part of a common bougie. In the two first instances, the calculous depositions were of a pale grey colour, inclining to white, soft and friable in their texture, and entirely soluble in muriatic acid: they were composed of phosphate of lime, ammoniaco-magnesian phosphate, and some oxalate of lime. The deposition of calculous matter upon the bougie was covered with blood, and in very small quantity, the bougie having been removed by an operation soon after it had passed into the bladder. It appeared to consist chiefly of phosphate of lime. The incrustation upon the hazelnut was also destitute of uric acid. Some calculi from the horse, the ox, the sheep, and other animals, were examined; and the analysis exactly corresponds with that which is given in Dr Thomson's valuable system of chemistry, except that the relative proportions are detailed with a nicety which some persons may consider too nice to be correct.

The general inferences drawn by Mr Brande are expressed in the following manner.

> " It appears from the preceding observations, that calculi formed in the kidnies, and immediately voided, are almost always composed of uric acid; and that the phosphates are very frequent ingredients in calculi of the bladder, more especially in those which, from their situation, have been exposed to a continual current of urine: they also uniformly are deposited upon extraneous substances introduced into the bladder, but appear never to form small kidney calculi.
>
> " In what is commonly called a fit of the gravel, a small uric calculus is formed in the kidney, and passes along the ureter into the bladder. It is found, from observation, that for some time after a stone has passed from the kidney, the urine is generally unusually loaded with uric acid, and deposits that substance upon the nucleus now in the bladder. When this period, which is longer or shorter in different individuals, has elapsed, the subsequent addition to the calculus consists principally of the phosphates."

Although renal calculi are most commonly formed of pure uric acid, yet they are often composed of oxalate of lime, and they are not only passed in abundance by the urethra, but the earthy phosphates are generally deposited upon a nucleus of oxalate of lime, when the calculus attains a large size in the bladder. Scheele, from finding uric acid so often in his experiments, thought that all calculi consisted of this substance; but we now know, that there are seven or eight other substances which enter into the composition of urinary calculi; and it cannot be too often repeated, that Dr Wollaston detected and described the properties of all these substances, except silica. To these chemical facts, Mr Brande has made no addition. He has made some remarks on the use of solvents, which deserve attention, inasmuch as he entirely disbelieves the efficacy of any dissolving power in medicine; and his conjecture is confirmed by the practical observations of Mr Home. It cannot be doubted, Mr Brande says, that the alkalies reach the bladder, since he has seen evident traces of it in the urine, in cases where large doses of sub-carbonate of potash have been exhibited. Although alkaline medicines often tend to diminish the quantity of uric acid, and thus prevent its deposition in the bladder, yet they favour the deposition of the phosphates; whilst, on the other hand, during the use of the muriatic acid, the phosphates are diminished, or disappear altogether; and the uric acid then re-appears, and even seems to be augmented in quantity. The good effects, therefore, of alkalies are supposed to arise, not from any actual solution of calculous matter, but from the power which they possess of diminishing the secretion of uric acid, and so preventing the enlargement of the calculus. Alkaline carbonates and sub-carbonates exert no action upon uric acid; and as there is, at all times, a quantity of uncombined acid in the urine, it follows, that, although the alkali may arrive at the kidnies in its pure state, it will there unite with the uncombined carbonic or phosphoric acid, and be rendered incapable of exerting any dissolving power upon the stone in the bladder. Lime-water, on account of the insoluble compounds which lime forms with carbonic and phosphoric acids, is said to be even more objectionable as a solvent than the alkalies. Mr Home appears perfectly satisfied with the explanation of the failure of alkaline medicines pointed out by his correspondent, as he knew, from experience, that to whatever extent alkalies are given, they exert no solvent power. The soft and uneven appearance of the external part of calculi extracted from patients who had long taken alkaline preparations, which has always been considered as a proof of the action of the medicines upon the stone, is a deception, since it is proved, that the soft laminæ are not portions of the original calculus, but newly formed parts, in which the uric acid, instead of being deposited in a regular form, and in chrystals, is mechanically mixed with the phosphates and animal mucus of the urine. The fallacy of the opinion respecting the efficacy of solvents, has been detected in all the instances in which the bladder was examined after death. Two of these are particularly noticed by Mr Home, because they were published during the patient's lifetime, in proof of the stone having been dissolved.

"Both patients were great sufferers from the symptoms of stone, for many years; but, when they arrived at the age of sixty-eight, or thereabouts, the symptoms entirely left them. The one had been taking the saline draught in a state of effervescence, under the direction of the late Dr Hulme; the cure was attributed to this medicine, and the case was published in proof of its efficacy. When the patient died, I examined the bladder, and found twenty calculi;

the largest of the size of a hazel nut, the others smaller. It appeared that the going off of the symptoms had arisen from the posterior lobe of the prostate gland having become enlarged (a change which it frequently undergoes about that period of life) and having formed a barrier between the calculi, and the orifice of the bladder; so that they no longer irritated that part, either in the act of making water, or in the different movements of the body, but lay in the lower posterior part of the bladder, without producing any disturbance. Their number prevented the pressure from being great upon any one part of the intestines immediately behind the bladder, and their motion on one another rendered their external surface smooth, and probably prevented their rapid increase. The other patient was under a course of Perry's lixivium; and when the symptoms went away, he published the case, in proof of the efficacy of that medicine in dissolving the stone. I examined the bladder after death, and found fourteen calculi; the largest of the size of a nutmeg, the others smaller. There was the same enlargement of the posterior lobe of the prostate gland, and the calculi were exactly under the same circumstances as in the former case. In several cases, in which I have examined the body after death, calculi have been found in cysts, formed between the fasciculi of the muscular coat of the bladder, so as to be entirely excluded from the general cavity, and therefore had not produced any of the common symptoms of stone. I have seen, in the same bladder, two, three, and even four such cysts, each containing a calculus of the size of a walnut."

Two other cases are related, to prove that calculi in the bladder do sometimes increase, while the patient is using alkaline medicines; and also to show that the uric acid, and earthy phosphates, are formed in different proportions, according to the peculiarities of the constitution. Mr Home takes notice of a circumstance, which he means to insinuate as being wholly in favour of his opinion, viz. "that in the case which gave celebrity to Mrs Stevens's medicine, and procured her a remuneration from parliament, the bladder was not examined after death." Now, the evidence in favour of Mrs Stevens's medicines is of the most extensive nature; and, whether we believe in their dissolving power or not, there can be no doubt as to their utility and efficacy in cases of stone. At a meeting of the trustees, appointed by an act of parliament, four persons appeared before them, who had been examined by the most celebrated surgeons in London, and a stone distinctly felt in the bladder: They took the medicines several months; voided a large quantity of calculous matter in flakes and small fragments; were freed from all their painful symptoms; and, on being searched again more than once, by Sharp, Cheselden, and other erudite hands, no stone could be found. All the trustees signed the certificate, except Dr Pellet, and Dr Nesbit, who had some doubts with respect to the words *dissolving power*, and therefore chose to give their certificates separately, in which they were satisfied from experience, that the said medicines, for the cure of the stone in the bladder, are often useful and efficacious.

The point now at issue is, whether there be any medicine which possesses lithontriptic powers, and whether the exhibition of alkalies does not lead to a still farther enlargement of a stone in the bladder? The inference from the two papers before us is against the use of any medicine, either acid or alkaline: yet it cannot be denied that patients have experienced material relief from taking lime-water, alkaline carbonates, and mineral acids. The cases of those who have taken these medicines, cannot be accounted for from accidents, nor from the explanation which Mr Home has given of some instances in his own practice. Allowing the formation of a cyst, or the enlargement of the prostate gland, to happen once in a hundred times, still it would not account for the large number of persons, who have taken some preparation or other of alkali every year for a century past, having voided pieces of stone, and afterwards remained free from their complaints. The formation of urinary calculi depends not only upon the saline properties, but on the animal matter which the urine contains, though we are disposed to think the mucus discharged in calculous disorders is rather a consequence than a cause of stone; hence it appears probable, the action of alkaline remedies is principally exerted upon the animal matter, which prevents the deposition of uric acid and oxalate of lime, substances never found concrete without some peculiar connecting medium. Sometimes the relief is only temporary; the pain ceases as long as the remedies are used; and when they are left off, the irritation is renewed: which clearly proves that some effect is produced, and some benefit derived, however we may be puzzled to explain the cause. When the stone is large, acids can never be taken in sufficient quantity to act as lithontriptics, nor will alkalies be likely to dissolve uric acid when it has attained a great size in the bladder; but in the early stages of the complaint, in fits of gravel and stone, alkaline carbonates and lime-water have long sustained considerable and deserved reputation. Chemistry has greatly extended our knowledge of this disease, and enables us to apply our remedies with more accuracy and precision, and consequently with better hopes of success; but when we consider the obstacles to effecting a complete solution of calculi out of the body, we can at present only expect a palliative from the best directed effort of medical skill. Paracelsus long ago observed, what still remains uncontroverted by subsequent discoveries, "solo cultro tolles, culter lapidis arcanum esto."

IX.

Handbuch der Pathologischen Anatomie, von Dr F. G. Voigtel, *mit Zusätzen.* Von P. F. Meckel. 3 Bänder 8vo. Halle, 1806.

In the present scarcity of foreign books which are permitted to reach this country, we think that we shall be doing some service to the cause of medical literature, by noticing the best works which have been published within these few years, and which are not yet very generally known to our readers. A system of morbid anatomy might be supposed to be familiar to most practitioners in Britain; but so little are German books inquired after, and so insignificant is the encouragement given to any translation, that we are persuaded we shall announce to many the existence of such a work, if we only report the title-page and contents, without attempting to give any detailed analysis of its merits and defects. Dr Voigtel's work is singularly comprehensive in its plan, and bears marks of great pains having been bestowed on its execution. His arrangement is, that of hard and soft parts, solids and fluids, in the usual order described in systematic treatises on anatomy. He begins his first volume with an account of all the morbid affections to which the integuments and bones are liable, and, in notes added to every chapter, he gives a list of authorities from which his information is derived, and refers very particularly to the several authors for every fact, and for every circumstance mentioned in the text. Some histories of cases are related, and many important facts are stated on the authority of morbid preparations, still preserved in the museums of Meckel and Loder, at Halle; so that, besides being a compendium of the scattered information respecting the changes produced by morbid actions and morbid structure, it contains some new and original matter. A compendium is so convenient for quick and ready reference, for casual investigation, for acquiring intelligence of what has already been done before estimating the value of a discovery, and so favourable to the studies of those who have no libraries of reference or college shelves to apply to, that the very form of this work is entitled to commendation. The subject naturally leads to a comparison with a work deservedly held in the highest estimation amongst us; though the plan of Voigtel's three volumes differs so much from Dr Baillie's treatise, that the comparative merits of each cannot be estimated together, nor do they admit of any rivalship, since the larger work contains a great deal of valuable matter avowedly taken from the less. These two writers, with whom a third may be mentioned (*Portal's Anatomie Medicale*) are quite dissimilar, and possess a manner and style so entirely their own, that their national character is displayed, even in recounting the malformations of the abdominal and thoracic viscera. The German is tediously minute, exact and prolix: the Frenchman is luminous, copious, and verbose: the Englishman is simple, short, perspicuous and careful; not a word is said more than is necessary, and that word is always directed to the point. What has been observed of the German writers in general, is strictly true, when applied to the author whose work is now under our consideration: they have no aversion to ponderosity, but, not being endowed with much invention, they are only regularly heavy: their praise is fidelity of quotation; their failing, want of discrimination. The faults of this pathological compendium are not entirely owing to the author or to his plan, but to the mass of absurdities which lye in leaden slumber, under the abused name of medical facts, whence they ought not to have been any more disturbed. But notwithstanding the mixture of good and bad authorities, notwithstanding the want of discrimination in the collection of cases and quotations, we have received so much instruction from the learned labours of Dr Voigtel, that we can confidently recommend this work as being worthy of a place in every library, by the side of the admirable productions of Lieutaud and Morgagni.

PART III.

MEDICAL INTELLIGENCE.

Report of Diseases treated at the Public Dispensary, *(near Carey-Street,) London, from Nov.* 30*th* 1808, *to Feb.* 28*th*, 1809.

Acute Diseases.

	No. of Cases.		No. of Cases.
Tertiana	4	Peripneumonia notha	10
Synochus	10	Hepatitis	1
Febris infantum	10	Pertussis	6
Cynanche tonsillaris	6	Rheumatismus acutus	10
Rubeola	1	Arthritis rheumatica	2
Scarlatina anginosa	11	Hydrocephalus acutus	1
Urticaria	1	Apoplexia	1
Herpes zoster	1	Dentitio	5
Erysipelas	1	Abortus	1
Catarrhus	89	Dysenteria	16
Peripneumonia	14		

Chronic Diseases.

	No. of Cases.		No. of Cases.
Cephalæa	7	Palpitatio	1
Hemicrania rheumatica	8	Epilepsia	3
Dyspepsia	12	Chorea	2
Vomitus biliosus	2	Hysteria	1
Pyrosis	2	Paralysis	2
Gastrodynia	5	Melancholia	1
Icterus	3	Asthenia	14
Diarrhœa	7	Amenorrhœa	7
Constipatio	2	Menorrhagia	9
Enterodynia	7	Leucorrhœa	7
Melœna	1	Dysuria	5
Tænia	1	Ischuria	1
Hæmorrhois	2	Nephralgia	5
Marasmus	9	Lumbago	6
Scrofula	3	Sciatica	1
Catarrhus chronicus	49	Rheumatismus chronicus	36
Asthma et Dyspnœa	4	Anasarca	5
Phthisis Pulmonalis	19	Hydrothorax	3

Chronic Diseases continued.

	No. of Cases.		No. of Cases.
Ascites	3	Lichen	1
Hydrops tot. *corporis*	3	Prurigo	3
——— *post scarlatinam*	2	Porrigo	4
Ophthalmia *tarsi*	2	Lepra	1
Scabies	1	Impetigo	3
Psoriasis	2		

Although the winter has been, on the whole, severe, cold, and stormy, yet there was not, at any time, a long continuance of frost without interruption. Three successive heavy falls of snow occurred between the 18th of December, and the end of January, accompanied with heavy gales of wind, and intense frost, which continued a week or ten days, and was succeeded each time by a few days of mild rainy weather. An immense quantity of snow fell during the last frost, and lay so deep in the streets of the metropolis, that many of the hackney-coaches were drawn by three, and some by four horses. The thaw was extremely sudden at the last; so that the melting of the great body of snow occasioned an inundation of some of the roads, and low districts round London. The month of February has been mild, with occasional rains, and the prevalent winds from the west. The early part of December was also wet.

Catarrhal and rheumatic complaints have prevailed very extensively, in all their forms, and frequently in combination in the same patient. The rheumatic cases, which occurred early in the winter, proved unusually obstinate; the symptoms being protracted, if not aggravated, by the successive frosts, or by the rains and damps in the intervals. One variety of rheumatism, which was chiefly observed in the month of December, was exceedingly distressing to the patient, and not easy of relief by medicine: this was a rheumatic face-ache, or hemicrania, affecting generally one side of the head and face, from the crown downwards, with acute pain, which was aggravated in the night; with great tenderness of the integuments, as well as of the gums, and muscular part of the cheek, which were usually swelled; sometimes with small nodes, or painful tumors, in the scalp; and with restlessness, white tongue, quickened pulse, and other symptoms of febrile irritation. Fomentations had generally been resorted to, but with invariable increase of the pain, as commonly happens in the more inflammatory forms of rheumatism, in other parts. Sometimes Dover's powder afforded relief; but the combination of calomel and opium, alone, or with the pulvis antimonialis, appeared to be the most successful remedy. The arsenic was beneficial in one instance, in which the disease assumed something of the form of *megrim*, the pain returning in periodical paroxysms. On the whole, however, that remedy has not seemed to be possessed of so much efficacy in chronic rheumatism, as the statements of Mr Jenkinson, and some others, would lead us to infer.

The scarlet fever has been less prevalent, and of the same mild type, as described in the former report: and sporadic cases of dysentery have continued to occur, accompanied with rather acute symptoms; in one half of the instances, there was a considerable discharge of blood with the stools. It is remarkable, that no case of contagious fever has been observed, during the whole winter.

The case of diabetes mellitus, in the list attached to the last report, occurred in a woman of spare habit, aged 59; who, after living three months in a damp cellar, found herself weak and poorly about a fortnight before Christmas 1807. She soon became feverish, and unusually thirsty; and observed that her urine increased in quantity, and was passed more frequently, especially during the night. She applied to the Dispensary in September last. She then complained principally of extreme prostration of strength, languor, and loss of spirits, and of "the fever;" meaning by the latter phrase, a constant sense of heat about the præcordia, and fauces; with a dry mouth and skin, and great restlessness and watching; the pulse being small and frequent, and the tongue dry. Her appetite was greater than formerly, and a craving returned very soon after taking food. She had been passing, during the last six months, about eleven or twelve pints of urine, the greater part of it in the night, which was of a pale amber colour, very sweet to the taste, and not in the least urinous in smell, but of a sickly violet-like odour, slightly acidulous. It yielded a considerable proportion of extract, resembling treacle, on evaporation. She also mentioned that her sight was a good deal impaired, and that her teeth had become loose, and dropped out, without decaying; the gums were ulcerated and spongy; and she complained much of an excessive weakness of the muscles of the thighs. She had not been able to procure any animal food for a long time back, and subsisted almost exclusively upon tea.

Under such circumstances, a cure was scarcely to be expected at a dispensary; and she was recommended to go to an hospital, where proper diet might be obtained: but she declined that plan. The case, therefore, is now chiefly mentioned, in order to afford an additional testimony of the powers of a remedy, strongly recommended by Dr Ferriar * in diabetes, viz. a combination of cinchona, uva ursi, and opium, taken three times a day, in the proportion of a scruple of the first, xv. grains of the second, and half a grain of the latter in powder. In addition to this medicine, she often took a dose of Dover's powder at bed-time; and sometimes the quantity of opium was increased, in consequence of occasional diarrhœa. Under this course, the urine became diminished to about the natural quantity, and of the urinous quality; "the fever" left her; her strength and spirits were considerably recruited, and this, while she lived upon tea. She grew tired of the medicine, however, and omitted it; the symptoms returned, with equal violence, and did not so speedily yield to the repetition of it. But from the marked relief experienced during its use, in spite of the diluent and saccharine diet, it may be presumed, that, had the diet been more favourable, the disease might have been more effectually combated. Dr Ferriar says, that he had cured three confirmed cases by the medicine above mentioned, the great success of which had prevented him from trying Dr Rollo's plan.

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* See his Essay on Digitalis.

T. Bateman.

London, Feb. 28th, 1809.

tλnsJ
v 1807

Pulmonary Consumption in America.

From the weekly bills of mortality by the Board of Health of Philadelphia and New York, the following statement of deaths appears for eight months of the year 1807, from the 27th December 1806 to 29th August 1807.

	Adults.	Children.	Total.
Deaths in New York,	862	688	1550
Deaths in Philadelphia,	796	591	1387

Deaths in New York by consumption during the above mentioned period 304, above one-fifth of the whole. Deaths in Philadelphia by the same disease in the same time 207, above one-sixth of the whole.

The population of Philadelphia and its vicinity within the bills of mortality, is supposed to be 120,000 (this, however, and the population of New York, seem over-rated.) The population of new York, within similar bounds, is said to have been ascertained to be 82,000, but say 90,000: then Philadelphia, with the same degree of health as New York, would have one-third more deaths than New York: whereas Philadelphia has one-ninth less deaths in the whole, and nearly one-third less deaths by consumption; or, in other words, New York has one-half more deaths by consumption than Philadelphia, and one-eighth more of total deaths. This statement is given by an inhabitant of Philadelphia: But, without entering into any dispute as to the comparative salubrity of these two places, it must be obvious, that the proportion of deaths by pulmonary complaints is very considerable in America.

Quack Medicines.

Nothing can be more egregious folly than for our statesmen to be debating about the cure of agues and gangrene in France, whilst upwards of 400 out of the 500 articles specified in the schedule of the act of parliament for regulating the duties on quack medicines, are liable to be prosecuted for a fraud on the public. A pounder of drugs is to be punished for selling the best Jesuit's bark to a foreigner, and he is encouraged to vend all sorts of compositions under fictitious names, to the ignorant at home and abroad. The newspapers at Hamburgh and in America used to be half filled with advertisements of English credulity and impudence, and our papers are filled so still. "*A medical observer*" has undertaken to hunt some of these quacks to their holes, and to pull them forth stark naked before the public. The undertaking is praiseworthy. The following is a literal copy of the composition of the *Rev. Mr Barclay's patent Antibilious Pills*, as specified at the Patent-office. "Take of the mass of the simple colocynth pills, two drachms: of resin of jalap, one drachm: of soap of almonds, one drachm and a half: of extract of *guaiacum* wood, three drachms: of tartar emetic, eight grains: of the essential oil of *carraway* seeds, four drops: and of the essential oil of rosemary, buds or flowers, four drops: mixing them well together with as much syrup of buckthorn berries as will make a mass for pills, and then divide the same into sixty-four equal parts, and make each part into a pill. The dose is from three to four of the pills, or more of them, taken at night or in the morning, as occasion or necessity may require. The above ingredients will form my pill, which *are* known by the name of the Rev. Mr Barclay's Antibilious Deobstruent Pills. In witness," &c. This is the great *invention* for which the Legislature has granted a patent, and the editors of newspapers print paragraphs of puffs!

Whitehead's Essence of Mustard.

The following is a copy of the proprietor's specification, entered at the Patent-office.

"Take of the whole plant and root of the white and brown mustard, and the white and brown mustard seed, any quantity, and with a sufficient quantity of water, distil therefrom the essential oil: put this essential oil, with an equal quantity of essential oil of juniper, and the purest alcohol into a retort, and with as gentle heat as possible, draw it over, and keep it very closely stopped. Digest cloves in fresh quantities of alcohol so long as they afford any flavour; filter it; put it into a cucurbit, and distil off the spirit till it begins to thicken. To this residuum add a *proper quantity* of distilled water, and it will precipitate: divide this precipitate into flat cakes, and dry it with a gentle heat. Digest gum guaiacum in the purest alcohol; filter it; distil off a part of the spirit till it begin to thicken; precipitate with water, and dry it in the same manner. Take of the above preparation of cloves, one pound three ounces: the preparation of guaiacum, two pounds three ounces seven drachms: balsam of Peru, one pound three ounces five drachms: balsam of Tolu, one pound nine drachms: intimately mix the whole together, and stiffen it, so as to form a hard mass, with Russia castor powdered: with which castor three drachms of the above essence of mustard is to be mixed: to each pound of this mass, six drachms of genuine kermes mineral is to be added, and then formed into pills. Take brown mustard-seed thirty-six pounds: pour thereon forty gallons of essential oil of turpentine, boiling hot: let it stand till cold, and then put it all into the still with a sufficient quantity of water, and draw thirty-nine gallons; to this add two pounds of animal oil, or oil of hartshorn (rectified by repeated distillations in a retort, till divested both of colour and smell), fifty pounds of camphor, four pounds of essential oil of rosemary, four ounces of essential oil of cloves, half a pound of English oil of lavender, and six drachms of the above essence of mustard.

"In witness whereof, &c. this 27th day of April 1798.

(Signed) "ROBERT JOHNSTON."

What a motley group of ingredients does this prescription present! The medicine, it is obvious to those who understand any thing of chemical pharmacy, cannot be prepared according to the form which is here specified upon oath; and what is sold at the shop of the patentee has been examined, and found not to be compounded of the articles mentioned. The grant of a patent to such an imposition upon the public, is a disgrace to the Legislature, and an unfair privilege to dishonest and ignorant men. *Ex hoc disce omnia.*

Extract of a Letter from a Physician at Barbadoes.

"The fever which seizes Europeans in these climates is a most terrible disease: its rapidity outgoes every effort to arrest it, and the stomach becomes so irritable, that if you do not act on the instant of attack, all efforts are fruitless. I know of no *one* remedy that will check the vomiting. Unhappily the combination of great sensible heat with high thermometrical temperature rarely presented itself; so that the opportunities for cold affusion are not frequent: and if that coincidence does not occur, the practice is equally injurious as in Europe. I have not seen the fever under circumstances that induce me to think it contagious; but other observers have, particularly on board of ships.

" The island consists of calcareous rock of late origin: the lowest strata dip to the south, and are extremely similar to the stone-limestone: the upper strata are much intermingled with corallines, madrepores, and shells, in some places forming grotesque caves and irregular caverns, one of which is an object of curiosity to travellers. The caverns are the channels of subterranean currents; hence we have no rivulets, and once only have I heard the delicious sound of a rippling streamlet, so peculiarly grateful under a vertical sun. The greatest part of the island is under cultivation.

" In September last a prodigious flight of beautiful butterflies (papilio leda) was wafted hither by a long prevailing south wind, which threatened a hurricane: they fluttered about for a few days and then disappeared, probably for want of food, as they scarcely ever alighted. The inhabitants predicted terrible calamities, because a similar flight preceded the great hurricane; an event still fresh in their memories, and still traceable by its devastations; happily, however, this proved to be a false alarm."

Some Account of the Hospitals at Bern in Switzerland.

There are two hospitals for the sick and infirm at Bern; both of them handsome buildings, in very fine situations; they have considerable funds for their support, and appear to be extremely well regulated. The hospital for the sick has been built about 40 years; it is constructed after the plan of our English hospitals, and contains several airy wards of different sizes, capable of accommodating one hundred patients; the bedsteads are made of wood, and have no curtains. The patients are divided into two great classes, according to their cases, whether their diseases be external or internal, requiring medical or surgical treatment, and the wards are appropriated to each class; there is besides one ward set apart entirely for children; and the frequency of scrophulous complaints render applications for admission very numerous. Several nurses are attached to each ward, and a man and his wife sometimes undertake the charge of one of the men's wards, where the worst surgical cases are placed. It is a common thing in Switzerland for men to act as nurses, and, in some places, they get their living by going out nursing in private families. Two surgeons and one physician belong to this hospital; the surgeons are appointed for life; the physicians attend in rotation; and there are four physicians who alternately do the duties of the hospital for one year, and they receive a gratuity of L. 50 per annum from the government. Warm and cold baths have been lately added to this establishment, and some small private wards for bad cases, especially for epileptic patients and lunatics, whose disorders are recent, and admit of relief. The town-hospital (hôpital de la ville) is upon a larger scale; it is a neat building, with a court-yard before it, planted with trees and flowers, and divided into several departments. Two wards are appropriated for the sick servants of the freemen of the town and country; some wards are for beggars and vagrants, who are fed and lodged for the night; other parts of the building are occupied by the aged and infirm, and a range of chambers which are let at a low rent to poor bourgeois, who are able to go out to work, yet still are objects of charity. Every part is in good order, and kept clean, and the magistrates and medical attendants visit every day. At the distance of one mile and a half from the town, are three more hospitals, which are under the care of the same medical men, but belong to the canton or the country, as far as relates to their domestic management. These buildings are old and inconvenient, the funds are not sufficient to render them better, nor to make the regulations so good as in the other institutions. They are in adjoining houses, one of which is an asylum for lunatics; another for venereal patients; and a third for incurable cases of epilepsy, cancer, scrofula, and the like. Nervous diseases are very common throughout Switzerland; the proportional number of lunatics and epileptic patients is very great. Upwards of sixty lunatics were confined in the hospital near Bern, in the month of August 1805; all of them in separate cells, and almost all of them had dark hair and eyes, and were melancholic. Rheumatism and disorders of the lungs are next in frequency to nervous complaints; but typhus fever is very rare, and the symptoms are mild whenever it prevails.

Extract of a Letter from Dr Reeve, *Norwich, giving an Account of the Effects of Oxy-Muriate of Mercury upon Horses.*

The attention of your readers being now directed to the action of mineral poisons upon animals, I send you an account of some experiments made by Mr Stevenson, an intelligent veterinary surgeon of this place, on the accuracy of which you may rely.

Mr Stevenson was induced to make these experiments, from having observed the inefficacy and apparent inertness of large doses of the oxy-muriate of mercury (corrosive sublimate), given in that formidable disease among horses, the *glanders*. Two drachms of the oxy-muriate of mercury were given every night and morning for several days in succession, to some horses affected with the glanders at Cambridge, under the superintendance of Mr Bowles, a respectable veterinary surgeon there; and neither the disease nor the constitution were affected in any degree by this medicine. This result was so unexpected, that Mr S. determined to ascertain to what extent the medicine might be administered, without producing death.

To a horse that was condemned to die on account of an incurable lameness, he gave ʒij. of the corrosive sublimate made into a ball with equal parts of linseed, aniseed, gentian, and chamomile; and repeated the dose every morning and evening for three days, without any visible effect. The animal ate and drank as before. The dose was then increased to half an ounce every night for three successive nights, which increased the pulse from 50 to 70, and diminished the appetite for food. During an intermission of three or four days, the horse recovered his appetite, and his pulse became as usual. One ounce of the same oxy-muriate of mercury was then given; which raised the pulse to 100, and occasioned pain for several hours, as the animal was frequently lying down and getting up again, and looking behind him, like a horse affected with the cholic. In the evening he appeared easier, and would probably have recovered from the effects even of this large dose; but being unwilling to prolong the experiment to any unnecessary extent, two ounces of the same were given the next morning, and the animal died in the course of eight hours after taking it. Before death, the pulse rose to 120, very irregular, and scarcely to be counted. The medicine seemed to operate chiefly on the kidnies, as the horse staled very copiously, and had a large discharge of feces and urine before he died.—On opening the body, Mr Stevenson found no inflammation in the coats of the stomach, no discolouration, nor the least appearance of sphacelus or eschar upon any part of the stomach or intestinal canal; the intestines were flabby and tender, and putridity had far advanced in them, for they could scarcely be taken out of the body without being ruptured. The liver and kidnies were in a putrid state; the latter, when stripped of their peritonæal coat, were almost a pulp. Nothing particular was observed in the thoracic viscera. Large doses of this substance produced the same effects on the circulation and on the secretions, when administered by Mr Bowles; and the same appearances were observed on dissecting the animals a few hours after death; which appearances he described very accurately in letters to Mr S. that I have seen. Some specimens of the oxymuriate of mercury used in these experiments I have examined, and I have every reason to believe it to be pure and unadulterated.—Horses are not affected by two other articles of the materia medica, which act powerfully upon the human subject, arsenic and laurel-water. A quantity of Fowler's solution, containing two drachms of arsenic, has been given to a horse in one dose, without producing any visible effect; and a very strong infusion and decoction of the leaves of lauro-cerasus have been given to horses, in quantities from a pint to a pailful, without exciting any sensible operation.

Mr Saunders, surgeon of the London Infirmary for curing diseases of the eye, and demonstrator of anatomy at St Thomas's Hospital, purposes, in the course of a few months, to publish a tract on some select practical points, relating to diseases of the eye, and particularly on the nature of the cataract in persons born blind, and the method which he has for a long time pursued, with uniform success, for the cure of such cases at the earliest periods, and even in infancy.

Mr James Wardrop has in the press, Observations on the Fungus Hæmatodes. The great object of this publication is to describe the morbid change of structure of the Fungus Hæmatodes in various organs of the body; to give a comparative view of Fungus Hæmatodes and Cancer; and to illustrate the whole by Cases and Plates.

TO CORRESPONDENTS.

The Gentleman who borrowed from the Editor, some months ago, Robertson on the Atmosphere, and *a Manuscript Letter from Dr Gordon to Dr Haygarth, on Yellow Fever*, is requested to return them. The letter is of great importance; and, as the name of the gentleman to whom it was lent, has been forgotten, it becomes necessary to make this public application, in order to recover it.

Communications have been received from Dr Jones, Messrs Oldknow, Robertson, Simmons and Woodham, Medicus, Veritas, &c. which, with the continuation of Dr Clarke's report, will appear in the next Number.

⁂ Communications may be addressed to the Editors, to the care of Messrs Constable & Co. Edinburgh; and Messrs Gilbert & Hodges, Dublin.

THE

EDINBURGH
MEDICAL AND SURGICAL JOURNAL.

1. JULY 1809.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Medical Report for Nottingham, from March 1807 *to March* 1808. By James Clarke, M. D. Physician to the General Hospital, and to the Vaccine Institution. (*Continued from p.* 198.)

The following case was placed in the table under *Menorrhagia:*

Mrs W——, æt. 96, married, applied to the reporter, October 10th, 1807. Complaining of pain in the head, uncommon sickness, and oftentimes vomiting of food, faintness, pain of the abdomen, which is somewhat enlarged; menorrhagia; pulse regular, belly costive.

Knows no cause for these complaints, which have now continued several months; has no reason to suspect pregnancy; has only had one child, which is now ten years of age. She has taken many medicines, but without relief.

To take a dram of sulfat of magnesia, in two ounces of infusion of roses, every morning; and a febrifuge in the day.

October 13*th.*—Finds no relief, and complains much of pain in bed; but says she is unable to describe her feelings. Omit the medicines; and take four grains of cicuta and half a grain of calomel each night.

October 21*st.*—She has been much better, and thought herself nearly well; but was yesterday seized with pain much resembling labour. The surgeon being sent for, arrived after she had, as the attendants said, miscarried. On careful examination, no embryo was discovered; but the discharge consisted of two quarts of hydatids, mixed with pulp like albumen, and a little blood; the hydatids were semipellucid vesicles, about the size of hazel-nuts, connected together by small necks, like bunches of grapes. She has this morning passed some more of the same nature, but nothing like an embryo. Two days since she passed, with a gush of blood, a mass about the size of the palm of the hand, which, from her description, was albumen. She can this morning turn in bed without any pain, and feels very pleasant and light; the abdomen has sunk to its natural size; her gums and mouth are affected by the mercury; for the last two days she has experienced frequent desire to pass urine, of which she has voided more than usual. Belly regular; pulse 96, regular, and moderately full; some thirst. The medicines omitted; an aperient to be taken immediately, a saline mixture in the day, and a gargle to be used for the mouth.

October 23d.—Feels some pain in the hypogastric region; belly costive; pulse full and rather hard; slept ill; no appetite; some fever; passes plenty of urine; slight red discharge; tongue clean; breasts much enlarged, painful, and full of milk. They were yesterday drawn by a child.

Continue the medicines. Repeat the purgative.

October 25th.—During the operation of the purgative some more hydatids were passed. Free from pain in the abdomen; some pain in the head; red discharge continues; pulse rather quick and sharp; urine plentiful; appetite improved; less milk in the breasts; has walked out to-day. Continue the same medicines.

October 28th.—Pain in the head continuing troublesome, two leeches were applied to the temples; they drew freely; but the face soon afterwards swelled considerably, and continues larger than natural, without any diminution of pain in the head. Pulse quick and feeble; belly regular; perspires much in the night; sleeps ill; feels very faint. Omit the medicine. To take a decoction of cinchona bark.

October 31st.—No pain in the head; but very little in the body; pulse more full; belly costive; gains strength; has still some discharge; has taken an aperient medicine.

Continue the bark.

November 13th.—Convalescent.

December 2d.—Complains of pain in the hypogastrium, with much menorrhagia, and has passed some firm coagula; feels feeble; headach; belly regular; pulse feeble, quick and cordy. About ten days since, it being her menstrual period, she had considerable menorrhagia, and passed many coagula, since which time she has had repeated returns of the hæmorrhage.

℞ Conserv. rosæ. ʒ j.
Aq. pura. ℥vss. Tere bene et cola.
Adde colaturæ claræ acid. sulfur. dilut. ʒ j.
Syr. simp. ℥ss.
M. f. mixt. Sumat cochl. iij. larg. 4ta. quaque hora.

An anodyne draught at bedtime.

December 3d.—Hæmorrhage continues; much debilitated. Continue the medicines; refrain from spirits or wine; apply cold water to the hypogastrium.

December 4th.—Very faint; no hæmorrhage; pulse moderately full; belly regular. Continue the mixture, and add half a dram of sulfuric acid. Omit the anodyne; diet to be only thin gruel.

December 6th.—Has been kept on gruel, and entirely in bed, in a very cool room. No return of hæmorrhage, but a slight discharge continues; pulse natural; feels faint and feeble; free discharge of urine. To take six drops of the tincture of digitalis, in each dose of the mixture. To take six drams of castor oil in the morning.

December 7th.—No return of hæmorrhage; oil gave three stools; pulse 100, bounding and full; no faintness. Continue the medicines. To be kept in perfect quietness.

December 9th.—Has had a very slight return of the hæmorrhage; pulse more natural, but still quickened; belly regular. Complains of very unpleasant sensations in the abdomen, without any sense of bearing down weight or shooting down pain; some pain in passing urine. Continue the same medicines.

December 11th.—Has had less discharge than for some months; complains of internal soreness, but of no pain, except in the head; vertigo; dimness of vision; sleeps remarkably well; pulse full, but not hard or bounding; urines freely, and without pain. Is allowed to get up to-day.

Continue the medicines, and repeat the castor oil.

December 13th.—Complains to-day of pain about two fingers'-breadth below the xiphoid cartilage, increased on pressure, with a sensation of internal soreness, particularly in the morning before taking food; not in the least increased by taking food, or urgent at any time after, sometimes even totally absent; appetite moderate; no vomiting; belly regular; feces natural; urine light-coloured; much throbbing pain in the head: pulse about 96, moderately full; but very little discharge; the abdomen gives to the touch the cordy sensation before compared to an injected placenta. The castor oil had produced three or four stools.

Repeat the castor oil, and continue the medicines.

December 15*th.*—The oil operated freely; feels less pain; but on pressure, a soreness is felt, which she refers to the stomach; no nausea or vomiting; a strong pulsation of the abdominal aorta is felt, on passing the hand on the abdomen, above the umbilicus; belly regular; pulse moderately full, and rather quick. Continue the medicines. To rub the abdomen with the ammoniated oil.

December 20*th.*—Complains of dysuria, and painful internal piles; belly rather costive; no soreness at the scrobiculus cordis; no discharge; pulse natural. Omit the medicines. To take pills with soda and rhubarb; to use an ointment for the piles.

December 25*th.*—Piles removed; no dysuria; has taken an aperient to prevent constipation; belly is again costive; much oppressed at stomach. Omit the medicines. To take a powder of colombo and magnesia.

January 11*th* 1808.—Has continued her medicines regularly, and has been able to walk two miles without fatigue; catamenia appeared in small quantity yesterday; belly regular; urines freely. Continue the medicines; repeat the castor oil, and use the pediluvium this evening.

January 15*th.*—The catamenia continued four or five days natural, with respect to colour and quantity; gains strength; pyrosis; belly regular. Has been entirely on vegetable food since the 4th ult. Allowed common diet. Continue the powders.

January 22*d.*—Free from complaint.

February 4*th* 1809.—Has continued, and at present remains in perfect health.

In the early progress of the disease, the symptoms might have been attributed to pregnancy; but a very careful examination of of every discharge from the uterus did not discover any thing like an embryo. The discharge of hydatids, as before described, affords a solution of most of the symptoms. Baillie, in speaking of these singular animalcules, says, " Whether these (hydatids) be commonly of the same kind with what occasionally grow in the placenta, or like those in the other parts of the body, I cannot determine, as it has not occurred to me to see an example of this disease; *" and again, " The existence of hydatids in the uterus is not distinguished by any characteristic symptoms, and is only known in consequence of their expulsion, by the contractile power of this viscus. This generally takes place, and is attended with pains resembling very much the pains of labour." † The justice of these remarks is completely proved by the above case, which also points out a very valuable physiological fact, that a secretion of milk may be induced without pregnancy, by a body producing a similar action on the uterus.

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* Morbid Anatomy, p. 378.

† Id. p. 386.

Catarrhus.—This was very prevalent in the months of January and February, as mentioned in the last report. The following case appeared to the reporter particularly interesting.

Mr Thomas H. æt. 35, married, leucophlegmatic temperament, complained, on the night of the 31st of January 1808, of pain in the head and loins, with much coughing and sneezing, supposed the effects of exposure to a current of cold air. The next day, he drank four pints of ale, thinking, by this means, to remove a torpor and general dulness which he had experienced all the day, but it had no visible effect; was restless during the whole night, with great heat of skin towards morning, and much pain in the head and shoulders. On the third day, he had considerable vomiting and purging, without any abatement of cough or fever; much disinclination to food. On the 4th day, he took an emetic; on the 5th day, he found himself somewhat relieved; 6th day, the purging has continued; much drowsiness; subsultus tendinum, and muttering in his sleep; 7th day, pain in the head augmented. He now first applied for medical aid. Some blood was taken from the arm, leeches applied to the temples, and a saline medicine exhibited. 14th day, He is reported to have continued the whole week without much alteration, but has walked out, and attended a little to his concerns; the purging has continued, and he has, this day, discharged much dark fluid blood by the rectum.

Late on Tuesday night, the 16th of February, and 17th day of his disease, the reporter was first called to visit the patient. He then complained of great pain in his head, over the orbits; much dry cough; soreness of breast from coughing; much and constant thirst; purging, with discharge of blood at each stool; craving appetite; he was drowsy and deaf; had subsultus tendinum; much heat of skin; pulse 116, and hard; dry and brownish tongue; pallid countenance; the pupils contractile on the admission of light, but not morbidly irritable; great fear of death, with a presentiment that the present complaint would prove fatal.

February 17th.—A consultation was this morning held with his surgeon. The patient had been delirious during the whole night; he had discharged nearly two quarts of fluid blood, mixed with very little feces; pain in the head, cough and fever undiminished; pulse 120, hard and full; much dyspnœa; deafness and stupor; no dilatation of the pupils, or intolerance of light; the desire for solid food, with a wish for his favourite beverage, ale. Sixteen ounces of blood being taken from the arm, in the two first cups exhibited a buffy coat; in the last, it was nearly natural. The pulse, after bleeding, became softer, and fell to 96; the pain in the head appeared moderated.

A blister was applied to the head, and a purgative prescribed.

February 20th.—The purgative operated; no blood passed with the feces; the blister produced a plentiful discharge; fever moderated; pulse 100, soft and feeble; stupor; the same appetite for food; urine passed with stool.

Calomel, squills and opium, night and morning.

February 22d.—He has continued without any material alteration; no blood has been discharged; has had less delirium. The craving appetite continuing, was this day indulged by his family; he came down stairs, sat as usual to dinner, eat voraciously of roast-beef and pork-pie, and drank some ale. During this time, the eye appeared dim, and the breathing slightly stertorous. He went to sleep at night, lay perfectly still, and, as he said, in the position in which he should die; and in the morning early, ceased to breathe, without the least struggle or alteration of posture, on the 24th day of his disease.

Dissection, about thirty hours after death.

Head.—About half an ounce of blood flowed from the division of the scalp. On sawing through the cranium, an ounce and a half of dark blood flowed (into a bason set for the purpose), coming from the ruptured sinuses. There were several orifices in the dura mater, which admitted small fleshy-coloured tubercles, some about the size of a small pea, which were received in depressions of the cranium, some of which measured 1–6th of an inch in depth. These tubercles appeared to arise from the pia mater. * The vessels of the dura mater very much distended, particularly at the back part of the head; the blood-vessels on the surface of the brain uncommonly distended. A strong connexion appeared on the upper surface of the brain, between the dura and pia mater, of a striated appearance, and connected with the longitudinal sinus. † There was a general effusion of lymph between the tunica arachnoides and the pia mater, the former much thickened, which the blow-pipe distinctly showed; but, in some parts, these membranes closely adhered. When dissected from the brain, they showed, that the tubercles before-mentioned, which were seated only on the upper surface, had no connexion with the brain.

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* Most probably the glandulæ Pacchioni somewhat enlarged. See Bell's Anatomy, vol. iii. p. 11.

† No doubt the cordæ Willisianæ, more distinct than usual. Id. p. 18.

The left ventricle contained about one ounce and a half of fluid; no fluid in the right; both were much enlarged, and vascular; the *plexus choroides* distended.

Abdomen.—The *liver* perfectly sound; the *stomach* very vascular, with appearance of extravasation, and generally spotted with a bright red; the other viscera sound.

It appears, that it was not before the 7th day of the disease that any medical aid was procured, and he continued his usual employment for many days after, although he found himself less and less able to pursue it. He had led a very irregular life, being greatly addicted to intoxication. He did not express any alarm until the 14th day of the disease, when blood was first observed with the feces. On the 18th day the disease assumed an inflammatory nature, and the blood then drawn presented a strong buffy coat. This great change in the diseases of the month of February, was noticed in the last Report. The Reporter made his visit on the 23d day, at the time that the patient was sitting at dinner with the family, who considered him convalescent, relating, with much triumph, the quantity of food he had taken. A little attention would soon have dissipated any idea of his convalescence; the dim eye wandered with suspicious eagerness, at every motion; he appeared restless, but refused to speak; hands and limbs tremulous; nose pointed and bluish; but he sat firm and upright in his chair, without any support, obstinately opposing any attempts to convey him to bed. The partial adhesion between the tunica arachnoides and pia mater, and the exudation between these membranes, are noticed by Baillie as unusual occurrences.

The reporter was called upon to attend the dissection of a boy, JOHN MERRIN, ætat. 14. His mother related, that he was an apprentice to a frame-work-knitter in Nottingham; that he came to her house (about one mile from the town) on the 12th of November 1807, and complained of being unwell; he felt shivering cold, which was soon followed by heat, accompanied with much pain in the head. He was better on the 13th, but on the 14th and 15th he was delirious the greater part of the day, making violent efforts to scratch his eyes and nose, from which he was restrained only by force; he appeared easiest when his head lay on her lap; she to-day observed his sight was much altered. On the 16th, medical assistance was first procured;

he was found by the surgeon much convulsed; his limbs contorted, and in a fixed position, to which they instantly returned when forcibly moved from it; perfectly insensible. *Died* in about four hours after, on the 5th day from his complaining.

Dissection, November 18th, about forty hours after death.—No external mark of injury or disease, excepting that the *left* pupil is much *dilated*, and the *right* equally *contracted*. *Head.*—The calvaria did not preternaturally adhere to the dura mater; much extravasated blood under the dura mater, on the left hemisphere of the brain. The whole brain, taken out of the cranium for examination, presented the following morbid appearances. The left ventricle considerably distended with coagulum; a direct ruptured passage from it into the substance of the posterior lobe of the left hemisphere; this passage was filled with coagulum, and opened into a considerable cavity that had been also filled with coagulum. The brain, which formed the sides of this cavity, was rough, and in part of a dark brown colour, not to be removed, or in the least altered by repeated ablutions with water; the coagulum found under the dura mater had been forced from this cavity. The blood-vessels on the surface of the brain fully injected with blood.

During the life of the lad, the mother repeatedly asked him if he had received any injury on his head;—to this question he always said, none at all; nor could he tell any cause for his pain. He had previously enjoyed good health.

Apoplexia Hydrocephalica.

Ann Crabtree, ætat. 5, had been a sufferer from this disease almost from birth, but was not brought to the hospital for assistance before November 1807, and then presented the usual symptoms. Mercury was pushed sufficiently far to affect the gums; but she died on the 4th of January following.

Dissection.

External appearances.—The body much emaciated, the pupils dilated, the head very much enlarged, in irregular protuberances. *Head.*—No fluid between the integuments and cranium; the cranium remarkably thin; the dura mater adhered very firmly to the calvaria; the sinuses and vessels of the dura mater much distended; the vessels of the pia mater much distended; the *brain* very much enlarged, with protuberances corresponding to the unnatural convexities of the cranium; the *lateral ventricles* contained six ounces of fluid. On cutting through the substance of the brain, the middle lobe of the right hemisphere was found, in several places, cartilaginous.

The appearances on dissection show a disease of long standing, particularly the state of the cranium. Baillie observes, "when such appearances take place in hydrocephalus, the disease has been of long continuance, occasionally for some years." He considers the hardness, as described in this dissection, as a consequence of scrofula. This child never could walk alone, not from any defect in the structure of the limbs, but from an inability to balance the head upon the spine; the least turn threw it from the centre of gravity, which it had not the power to recover. There cannot be a more apt representation of its figure and situation, than the balancing toy of children, which, if laid on its side, returns, in consequence of its gravity, to the erect position.

Paralysis.—Of the many cases which have occurred of this disease, the following is alone thought worthy of a full detail.

William Warner, æt. 68, married, frame-work-knitter, was received an in-patient, under the care of the reporter, the 10th of November 1807. Complaining of a total loss of power of the whole of the right side, which is free from pain, but feels numbed; belly obstinately costive; no pain in the head, or vertigo; speech very imperfect; memory defective; fatuity; feeble pulse.

Has been unwell for a fortnight, but on Sunday the 8th inst. had a sudden attack of palsy, and continued insensible for some time; has been deaf for some years, but thinks his hearing improved since the stroke.

He has been bled and blistered by an irregular.

Let him have a strong glyster immediately; and take some aromatic mixture repeatedly.

November 12*th.*—Had one stool from the glyster; belly has been obstinately costive ever since. Continue the mixture.

A glyster each hour until three or four evacuations are procured: a blister to be applied to the crown of the head.

November 14*th.*—Glyster operated, but has not had a stool since; tongue furred; passes urine regularly; appetite good; blister acted but slightly. Continue the mixture.

℞ Calomel gr. j.
Pil. aloes c. myrrh. gr. v.
M. f. pil. omni nocte sumenda.

November 24*th.*—The pills have kept the body regular; has now acquired some power of motion of the right side. Continue the medicines. Repeat the blister to the head.

November 28*th.*—The blister has acted well; the belly is kept regular; he was put in the warm bath at 100° Faren. on the 26th;

he fainted in the bath, but says he does not feel any bad effects from it. Continue the cordial mixture, and pills.

December 21*st.*—Since the last report he has continued his medicines regularly; two large blisters have been successively applied to the top of the head, which have acted sharply. He has now acquired nearly complete use of the right arm; has less numbness, and an increase of feeling in the fingers; walks without assistance, moderately steady, with some pointing of the right toes; speech perfectly restored; free from fatuity; pulse irregularly intermitting; belly regular; urines freely; attributes this amendment to the blisters. Continue the medicines. Let the toes of the right foot be supported by list, attached to the waist and shoulders.

January 11*th* 1808.—Another blister has been applied to the head since last report, and has acted sharply. Yesterday he had two shivering fits, and to-day feels feeble and faint; blistered part has healed; belly regular; pulse very feeble. Omit the medicines. To take a febrifuge medicine, and four ounces of port wine daily.

January 12*th.*—Has had much vomiting and purging; feels on the whole better, but very feeble; pulse regular and moderately full. Continue the remedies.

January 14*th.*—Vomiting and purging have returned; pulse irregularly intermitting, but moderately full; is very feeble; he took a grain of opium yesterday without effect; much thirst; no appetite. Omit the powders; continue the wine.

℞. Aq. menth. pip.
Aq. acetit. ammoniæ.
Misturæ camph. aa ℥ij.
Tinct. cort. angusturæ ℥j.
Confect. aromat. ʒj.
Tinct. opii gutt. 60. m. f.
Mixt. sumat ℥j. 4ta quaque hora.

January 18*th.*—Diarrhœa moderated; has vomited for several hours; no pain; tongue furred; pulse irregularly intermitting, small and quick; much weaker; considerable echymosis has appeared on the arms and legs; perfectly sensible; takes rice-milk with appetite. Continue the mixture.

To have eight ounces of wine daily.

January 19*th.*—Has not had a stool since yesterday morning; tongue covered with a thick brownish crust; pulse as yesterday; has passed much urine; slept well; no vomiting; much thirst; a little cough. Continue the remedies; to take a dose of castor oil immediately.

January 22*d.*—Appears in much pain, but cannot refer it to any particular part; dyspnœa; stupor; having had no stool for two days, he has this morning repeated the castor oil.

January 25th.—The castor oil was repeated; a glyster given before any effect was produced; after which he passed three or four copious stools; tongue clean; sleeps well; takes food with appetite; little cough; much less fever; no dyspnœa. Continue the remedies.

January 30th.—Considerably better; belly still very costive; has taken castor oil this morning. Continue the remedies.—Repeat the pill prescribed in the report of the 14th of November.

February 5th.—Has had a severe paroxysm of fever since the last report, attended with a violent diarrhœa; at present he is free from fever; belly regular; very feeble. Continue the remedies.

February 22d.—From the period of the last report, he has gradually recovered strength, and the use of his limbs, without any alteration in the remedies, and was this day *dismissed cured.*

This man was admitted without any prospect of a cure, but with the view only of affording him some relief. Although his situation was not so pitiable as that of Holliwell;* yet the advanced age of Warner; his emaciated figure, and aged features, gave rise to an unfavourable prognosis. The blisters, when they began to act, had a very great influence on the paralytic parts. The ends of Holliwell's fingers felt soft and pulpy, and always covered with a cold sweat; those of Warner were shrivelled almost to the bone, rough and hard, but gradually became more natural as the cure advanced. The action of only half an ounce of castor oil was always followed by great debility: the aperient pills answered the purpose, without any unpleasant effect. He went into the bath from his own desire, but did not wish to repeat it; supporting the foot with list had the same good effect as with Holliwell. On the 10th of January, he was permitted to walk home to his family. It was after his return that the febrile paroxysm made its attack; but the report of the 5th of February presents us with a similar paroxysm, without any assignable cause. Whether they arose from accidental causes, or were efforts of the vis medicatrix naturæ, the patient with difficulty recovered from them; the paralytic affection was totally removed; nor has he claimed any further medical assistance.

Gastrodynia.—The oxyd of bismuth still maintains its deserved preeminence in the cure of this disease; it may be considered as complete a specific as mercury in syphilis; the common dose of five grains has in many instances produced immediate relief.

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* Edinburgh Medical and Surgical Journal, vol. iv. p. 266.

Convulsio.—The two cases of this disease, under five years, occurred in infants, the effect of constipation, and would have terminated fatally, had not very active treatment been employed. The infant was put into the warm bath, a glyster given in the bath, and a purgative taken. The speedy discharge of accumulated feces relieved the little sufferer.

Chorea.—The symptoms of this disease often show much variety; but the one about to be detailed presents much novelty.

Miss N——, æt. 19. December 1st, 1807.—Was yesterday evening suddenly seized with a constant and involuntary motion of the lower jaw, as if in the act of mastication, attended with much oppression of the præcordia, and convulsive respiration, sometimes with a sense of suffocation, which is immediately excited upon any attempt, however slight, to swallow liquids or solids, which, as soon as they touch the fauces, excite a complete and violent paroxysm of this spasmodic affection, but wholly free from pain. Pulse 88, moderately full, and perfectly regular; belly regular; catamenia regular.

Knows no other cause for this complaint than fatigue, and close confinement to a sedentary occupation. About nine months since, she experienced a slight attack of the same affection, which continued two days, and suddenly left her without any medical assistance; she has always enjoyed good health.

She was ordered this morning fifty drops of the tincture of opium, for a dose; about one hour afterwards, five grains of calomel, followed by a dose of common purging mixture; and in six hours after that, she took thirty drops more of the tincture of opium, in a cordial draught.

December 2d.—Purgative operated freely; slept well last night, and free from spasm. The motion of the jaw is not so violent this morning; but the head, arms, and legs, have been much agitated, as in chorea; has not taken any nourishment without inducing the suffocating sensation; convulsive respiration, or catching of breath, and oppression of the præcordia undiminished; great hunger and thirst, but fears to take any food; pulse 88, regular; feels no pain at any time. During the slight intermissions, she is in good spirits, and apparently free from disease.

℞ Assafœtidæ gr. xv.
Mist. camphor. ℥x.
Spirit. æther. nitros. gutt. 40.
Tinct. opii gutt. 30. m. f.
Haustus 4ta quaque hora sumendus.

℞ Opii pulv. gr. iv.
Ol. cinnam. gutt. j.
Mucilag. q. s. ut. f. pil.
Hac nocte sumenda et cras mane repetenda.

December 3d.—Took two of the draughts, and the pill at night and this morning; slept well in the night, and has continued all the day strongly under the influence of the opium; has not experienced any spasm during the whole of to-day; jaw free from agitation; no difficulty or fear in taking food; no remains of convulsive respiration. The disease has moved into the arms, which are at times violently convulsed, but quite still during sleep; the convulsion is much increased on waking, particularly if roused by any noise. Pulse natural; free from pain; no stool since yesterday.

To drink lemon-juice; the opium pill to be repeated at bedtime, and the purging mixture in the morning.

December 4th.—Involuntary motion continues in the arms and hands; not so constant, but more violent, *and not diminished in bed;* slept well; pulse natural; takes food freely; belly costive. Repeat the purgative.

℞ Ammoniareti cupri,
Opii ā gr. iss.
Conserv. q. s. ut. f. pil. bis in die sumenda.

Repeat the opium pill at bedtime.

December 5th.—The purgative operated freely; spasms less violent, and chiefly in the arms; sometimes the breathing is affected, but that very slightly; pulse natural; spirits good; urinary secretion has been in every respect natural. Continue the medicines.

December 8th.—The involuntary motion has been for the last two days entirely confined to the head, very slight, and at times totally suspended, particularly after a strong paroxysm; pulse natural; appetite good; has taken two of the day-pills, by mistake, for one dose; has been sick every night; belly very costive; took some castor oil this morning. Omit the pills.

℞ Ammoniareti cupri gr. j.
Opii gr. iss.
Conserv. q. s. ut. f. pil. bis in die sumenda.

Repeat the opiate at bedtime.

December 12th.—Catamenia appeared on the 9th, before the usual period; the sickness still continuing, she has omitted the day-pills; has experienced very little involuntary motion, but yesterday evening she had a very severe attack, followed by a restless night, with horrid dreams, and repeated startings; she has at present much involuntary motion of the head, and some affection of the voice; spirits very much depressed, and the mind very anxious; appetite indifferent; catamenia absent; belly costive.

Has taken of calomel and gamboge, each five grains, this morning. To repeat the opiate pill at bedtime.

December 15*th*.—Has continued much better; some pain in the bowels, which are constipated; much sickness after her medicines. The opium has been omitted, and one grain of hyoscyamus substituted for it; but, from the increasing nausea, it also was discontinued.

℞ Extracti gentian.
Carbon. ferri praecip.
Pil. aloes c. myrrhæ aā ʒj.
M. f. pil. 36, quarum sumat iij. bis in die.

Repeat the purging mixture.

December 18*th*.—Has continued nearly free from involuntary motion: general health appears good; countenance healthy; belly regular; sleeps well; appetite moderate; wishes to visit her relatives. To continue the pills, and to take occasionally the purging mixture.

January 30*th* 1808.—Has returned two or three days. During her absence, she experienced a return of the spasms: the medical attendant prescribed small doses of opium, and the arsenical solution. She complains of much soreness in the throat and stomach, with griping pains; she has lost flesh, and feels feeble; countenance sickly. This evening, without any known cause, the spasms returned with their former violence, attended with a sense of suffocation; strong involuntary motion of the arms, and some action of the lower jaw, with repeated sighing; pulse very feeble; belly regular; catamenia regular. To take some purging mixture immediately; three grains of opium, with one drop of oil of cinnamon at bedtime.

February 8*th*.—The opium has been gradually diminished to one grain, combined with two grains of hyoscyamus; she has taken a febrifuge medicine in the day; the paroxysms of the disease have been severe, but terminating in sleep; although violent, they have been less frequent; and, for the last two days, she has been wholly free from them. She is much debilitated, and complains of weakness in her right leg, which, it has been lately observed, she draws after her when walking. The opium was entirely omitted one night, but from an accidental cause; a paroxysm was induced, which continued violent the greater part of the night, and even strong during sleep; the soreness and griping pain have been removed. Belly, which has been very lax, is now regular; appetite improved; good spirits; she can now write, which she has not accomplished since her first attack.

To continue the opiate and the febrifuge.

March 26*th*.—During the period since the last report, she has continued her opium at times; and vegetable tonics, as colombo, gentian, &c. have been substituted for the febrifuge; a blister has been applied to the side, to relieve pain in that part; has for some days had pain in the head; countenance flushed; pulse full; great heat of the forehead.

Leeches were applied to the temples, and a strict vegetable diet recommended.

℞ Pil. galb. comp. ʒiss.
Pil. aloes. e myrrh. ʒss.
M. f. pil. 24, sumat iij. bis in die.

November 25th.—Since the last report, she has taken the fetid pills occasionally, and used the cold shower-bath twice in the week, during the whole summer; she has repeatedly lost her voice during two or three days. The paroxysms of disease to which she has been subject, have been purely hysterical, nothing like the former complaint; she has persevered in the vegetable diet; the pains in the head and side were soon removed; her countenance and general appearance is perfectly healthy; she has gained flesh and strength. She has this evening felt nausea; unpleasant taste, with a load at stomach, for which she is to take an emetic.

November 30th.—A severe paroxysm of fever came on yesterday, without any known cause; belly regular.

To repeat the febrifuge medicine.

February 1809.—The febrile affection, mentioned in the last report, subsisted about ten days, since which she has remained in every respect in most perfect health, and has again returned to common diet.

The motion of the lower jaw was very rapid and violent, not to be restrained by holding the jaw. The convulsive respiration, or catching of the breath, strongly resembled the hydrophobia symptom, as noted in Hill's case, in this Number; the sensation of suffocation was extremely distressing, and in the first two or three days, produced even by the sight of food. During the whole of the paroxysm she never experienced any pain, but always complained of fatigue in the parts affected; the pulse never was affected, either during the paroxysm, or afterwards. The catamenia were, in every respect, natural. Her employment was book-keeping, at which she was sometimes necessarily confined; her temperament was nearly sanguine; her disposition particularly amiable. She experienced great inconvenience in not being able to take food; hunger and thirst became almost insupportable. The slightest sudden movement, noise, or stream of cold air, to which she had the greatest dislike, produced great agitation. When the involuntary motion was confined to the head, it often resembled the agitation of paralytics; the feces were generally nearly natural, perfectly so in respect to colour. The report of the 30th January mentions much constitutional affection; certainly an unexpected change had taken place in a few days, which she attributed to the arsenical solution. In February, the paroxysms terminated in sleep; this, with the other symptoms before noticed, gave some apprehension of a conversion of disease to epilepsy, which was prevented only by the plan adopted. She did not experience merely a loss of voice, but often of the power of speech, and sometimes even of the power of moving the lips, which, though unattended with spasms, were generally consequent on a paroxysm. When this and other hysterical symptoms appeared, the cold shower-bath was added to the former treatment. The violent paroxysm of fever in November must be considered a salutary action, and may be supposed to have removed the original disease.

There are many things remarkable in this case, particularly the symptoms so strongly resembling hydrophobia. There was the same abhorrence of food, not from inability to swallow, but from the suffocation such an attempt produced. The effect that a stream of cold air produced was similar to that in hydrophobia. Sufficient food is now offered for the speculative theorist. As theory is not within the scope of these labours, the reporter forbears any further comment, but proceeds to describe the successful treatment of a very troublesome, and often incurable disease.

Epilepsia.—Susannah Lane, ætat. 20, single, cotton-spinner, was admitted under the care of the reporter, October 20th 1807. Complaining of epileptic fits, which come on suddenly, and generally continue about half an hour, during which she is deprived of all sense: they return about twice in the week. Pain in the head; vertigo; nausea; pains at the pit of the stomach; globus hystericus. Belly regular; urine passed regularly; catamenia regular; pulse full.

Knows no cause for this disease, which has continued three months.

To take an emetic before breakfast to-morrow.

October 22.—Has had repeated fits, clearly epileptic; pulse natural; belly regular.

℞ Oxidi bismuth. alb. ʒj.
Pil. galban. comp. ʒij.
M. f. pil. 36, sumat iij. ter in die.

To use the cold shower-bath every morning.

October 26*th.*—No amendment; belly costive. Continue the medicines. To take a purgative in the morning.

October 29*th.*—No fit since last report; catamenia adsunt. Continue the pills; omit the bath. Use the pediluvium at bed-time.

November 14*th.*—Has had only one fit; belly regular. Continue the pills; repeat the shower-bath as before.

November 24th.—Has not had any fit, but complains of pain at the heart, and shivering: belly regular. Continue the remedies. Repeat the purging mixture.

November 26th.—Purgative operated freely; catamenia adsunt; complains only of much pain in the stomach. Omit the pills and bath.

℞ Colomb. pulv.
Magnes. ā gr. x.
Rhæi pulv.
Zinzib. pulv. āā gr. iii.
M. f. pulv. bis in die sumendus.

November 28th.—Complains of great pain in the hypogastric region; has had no fit; belly regular. Continue the powders. Repeat the purgative.

December 30th.—Has not had a fit; is in perfect health. To repeat the purgative occasionally.—*Dismissed cured.*

At first this disease was considered purely hysterical, but the first fit after her admission proved epileptic. The treatment was speedily effectual; the fits were wholly removed in three weeks, and the constitution soon acquired its natural tone.

Asthma.—Under this term the pure spasmodic disease is alone admitted, not the chronic cough which troubles elderly persons in cold seasons.

Diabetes.—The two cases noted in the table were merely symptomatic. The reporter has at present a distinct and well-marked case of this disease under his care, with which he has tried the plan laid down by Rollo without any success. He has in consequence thought it right to give every efficacy to the plan so lately recommended by Watt.* As far as he has hitherto proceeded, it has been attended with every advantage that could be expected; but the result must remain for a future communication, which shall have publicity as soon as possible.

Dyspnœa aquosa.—The disease which has been hitherto received under this name, is the advanced stage of the peripneumonia notha, or the bronchitis asthenica of Badham, to whom the public are much indepted for a cheap and brief treatise on the inflammatory affections of the mucous membrane of the bronchiæ. This little work is an excellent contrast to the ponderous folios and quartos, as containing considerably more information in a small space, and within the reach of any man's pocket. To these diseases he gives the generic term bronchitis, to which he assigns three species, 1. acuta,—2. asthenica,—3. chronica. It is unnecessary to enter more into detail on this

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* Cases of Diabetes and Consumption.

little tract, as probably the book is already in the hands of most practitioners. The reporter, therefore, will proceed to detail a case of the bronchitis asthenica.

Mary Wilford, æt. 56, married, spinner, came under the care of the reporter, as an out-patient, February 23d 1808. Complaining of much pain in the head, particularly over the orbits; much cough, which returns by fits, but irregularly attended with dyspnœa; stricture across the chest, without pain; cannot lie down in bed; feet and body swell towards night; fevered; pulse feeble and intermitting, urine scanty, belly costive.

Has been subject to asthenica.

To take the pills of squill and opium night and morning.

March 3d.—Pain in the right iliac region; cough troublesome; in other respects better; has taken an aperient to remove constipation.

March 10th.—Cough troublesome; orthopnœa. Omit the medicines.

℞ Scillæ pulv.
Digitalis pulv. āā gr. j.
Calomel gr. $\frac{1}{4}$.
Mucilag. q. s. ut f. pil. nocte maneque sumenda.

March 17th.—Orthopnœa and cough undiminished; passes more urine; expectorates freely; belly regular. Continue the pills.

March 24th.—Somewhat better. Continue the medicines.

℞ Sulfat. zinci gr. j.
Ipecac. pulv. gr. xv.
M. f. pulv. emeticus cras summo mane sumendus.

April 7th.—Orthopnœa continues; fever towards evening; morning sweats; cough troublesome; stricture of the chest; belly regular. Omit the pills. To take the febrifuge medicine during the day.

April 14th.—Less stricture of the chest; cough almost constant; fever removed. To take a mucilaginous mixture.

May 12th.—Free from complaint.—*Dismissed cured.*

Ascites.—The following case is introduced to show the great power of purgatives in promoting absorption.

Alexander Smith, ætat. 58, married, frame-work knitter, was admitted under the care of the reporter, March 24th, 1807. Complaining of a short dry cough; pain in the abdomen, which is considerably enlarged, with sensible fluctuation; urines freely; belly open; dyspnœa, but can lie down in bed; pulse full and quick; tongue furred. Relates, that about one month since he had an inflammation of the bowels, followed by violent vomiting; the swelling of the abdomen succeeded in four or five days.

℞ Pulv. fol. digit. gr. iss.
Tartrit. acid. potas. ℈j.
M. f. pulv. nocte maneque sumendus.
℞ Pulv. jalap. ℈j.
Tartrit. acid. potassæ ʒss.
M. f. pulv. purg. cras mane sumendus.

April 2d.—Has taken two purgatives since last report; both operated freely; abdomen much diminished; passes much more urine; complains of much pain in the loins; belly regular. Continue the powders. Repeat the purgative.

April 16th.—Has repeated his purgative about every third day, and says it always produced great relief; abdomen is now reduced to its natural state, and perfect health is restored. *Dismissed cured.*

This disease certainly did not arise from derangement of the absorbent system, but was considered as an effusion of lymph in the cavity of the abdomen, the consequence of inflammation.

Eneuresis.—The following case presents the favourable termination of this disease.

John Hutton, æt. 18, tailor, came under the care of the reporter, as an in-patient, July 28th, 1807. Complaining of incontinence of urine, without pain; much debility; pulse feeble; functions natural.—Attributes this complaint to a kick on the loins, about three years since, which was the time the disease first appeared.

To take ten drops of muriated tincture of iron, thrice a day.

August 1st.—Much the same. Continue the drops, and apply a blister to the sacrum.

August 3d.—Blister has acted well; can now retain his urine; belly regular. Continue the drops.

August 6th.—Says he cannot now retain his urine. Continue the drops; use the shower-bath on alternate days.

August 15th.—Continues the same. Repeat the blister, and persist in the drops.

August 18th.—Can retain his urine three hours; pulse natural; belly regular; says he has experienced much relief from the last blister. Continue the drops.

August 22d.—Complains of griping, with diarrhœa. Omit the tincture; take a dose of castor oil.

August 25th.—Griping and diarrhœa removed; in other respects as before.

To take six drops of the tincture of cantharides, three times a-day.

October 22d.—Has continued the use of the tincture of cantharides, gradually increasing the dose to twelve drops; he can now retain his urine, and is free from complaint. *Dismissed cured.*

From the alleviation resulting from the application of a blister the reporter was led to the use of the tincture of cantharides, which immediately produced a decided effect, by keeping up the stimulus on the urinary organs.

Samuel Hollingworth, æt. 38, married, frame-work knitter, had, for more than two years, suffered from great pain in the left kidney, painful dysuria, and the discharge of considerable quantities of greenish pus with the urine. Gradually worn down by disease, looking cheerfully forward to the termination of his misery, he breathed his last on the 17th of February 1808.

Dissection, twenty-four hours after death.

Abdomen.—The liver was considerably enlarged, and much indurated; the gall-bladders and ducts natural; the blood-vessels of the omentum somewhat distended; the right kidney natural; the left kidney about twice the natural size, and containing about half a pint of greenish pus, in many cysts; the bladder much thickened, and contained some pus similar to that found in the kidney; the mesenteric glands enlarged; the spleen enlarged and indurated; a general adhesion of the lungs; the *thyroid gland* enlarged to the size of a turkey's egg; it had a cyst containing several pellucid granular bodies, much resembling boiled sago; the gland was very vascular, and the inner surface presented a ruptured blood-vessel.

There was in this subject a great tendency to glandular disease, although no distinctive marks of scrofulous habit. The affection of the thyroid gland did not appear until a few days before his death, and came on suddenly in a fit of coughing. His father has had bronchocele for many years.

Fractura.—A fracture of the vertebræ of the neck is not a common occurrence; the following dissection, therefore, is particularly interesting.—A man fell backwards from the threshold of a workshop, about fourteen feet from the ground; he was taken up in a state of insensibility, and carried home. In a little time he was able to point out the seat of injury; but an attentive examination did not enable the surgeon to discover the nature of the accident. He complained of much pain when any pressure was made on the back of the neck; the lower extremities were paralytic; the stools and urine passed involuntarily; and he died on the fourteenth day after the accident.

Dissection.

The vertebral column of the neck, dissected from the muscles, was carefully removed from the body. A fracture was immediately discovered, which took its course through the spinous process, and completely through the body of the fifth vertebræ; the lateral portions of the vertebræ being sawed away, showed distinctly the internal view of the fracture. It then appeared evident that, upon the slightest motion, the sharp edges of the facture must have pressed upon the medulla spinalis. There was no dislocation, or the slightest displacement of bones, the fracture being perfectly simple, without the smallest spicula of bone. The sheath of the medulla spinalis was laid open the whole extent; at the seat of injury it contained much pus, which had proceeded up to the seat of the fourth vertebræ; but there was not the least appearance of injury of the medulla below the seat of fracture. Much coagulated blood was formed under the integuments covering the fifth vertebræ. The reporter very much regrets that he had not an opportunity of procuring a more detailed account of the symptoms that ensued from this injury.

In terminating this report, it is necessary to remark, that, in the detail of cases, brevity has been always observed, but in no one instance to the detriment of the case. A report only is given when some alteration in the symptoms has required attention. The treatment, too, has been described in few words, avoiding, as much as possible, the tediousness of medical formulæ.

Nottingham, February 11th, 1809.

II.

Case of Hydrophobia, with an Account of the appearances on Dissection. By Henry Oldknow, Surgeon, Nottingham.

On the 25th of October last, William Hill, aged 45, by trade a tailor, had a portion of the scrotum torn away by the bite of a dog; at the same time he received a contusion on the thigh, close to the scrotum; and, in attempting to separate the jaws of the animal with his hands, the point of a tooth penetrated the back part of one finger of the left hand, making a small wound, similar to the puncture of a small nail. There being a general alarm about mad-dogs at this time, and some unpleasant symptoms existing in this dog,* it was thought prudent to take the necessary precautions; consequently, the edge of the lacerated scrotum (the wound being about the size of a shilling, and exposing the tunica vaginalis testis) was pared away and cauterized; the contusion on the thigh, and the punctured wound of the finger were cauterized only; afterwards rags wet with the aqua ammonia pura were applied over the cauterized parts, until considerable inflammation was excited; so that, in a few days, a large slough was cast off from the thigh, and a small one from the punctured finger, each according to the extent of surface on which the caustic was applied. The wound on the finger suppurated very little, and soon healed; that on the scrotum, and the contusion on the thigh, suppurated copiously, and healed in about a month.

On the 10th of December, forty-six days subsequent to the bite, I was desired to visit this man, whom I found complaining of sickness, and great oppression at the stomach; flatulence, frequently sighing, moaning, and breathing short; having great distress of countenance, and a sensation of constriction about the upper part of the throat; great difficulty in swallowing liquids, the sight of which agitated him much, and produced, to all appearance, a spasmodic action of the diaphragm and muscles of the glottis, similar to what is observed in hysteric paroxysms, and which was greatly increased in the attempt to swallow; he had equal difficulty in swallowing solids. On examining the wounds, they were found to be healed; that on the thigh was in part covered with a scab, which easily separated, without tearing the new skin formed underneath; nor did the cicatrices appear unhealthy or inflamed. He had, however, complained, as much as four days before, of a soreness; or, to use his own expression, of a sensation of roughness in the skin, about the middle of the humerus, with a prickling numbness, and sometimes tremor, of the left hand and arm.

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* It was thought at this time the dog was not mad; he eat and drank heartily, but very soon rejected the food from his stomach; he appeared lively, and showed no signs of indisposition, except sickness after meals, but was observed to be out of temper the day before, having bit the boy who then brought him his food, and who generally had the care of him. This, however, was not much noticed; as he frequently had been observed to teaze the animal at these times, by pointing at him, &c.; nor would the boy submit to have any thing done to him, being confident the dog ailed nothing; however, it was thought proper to keep him confined. The day following, wishing to remove the dog, a very foolish and unsuccessful attempt was made to get him into a bag, to convey him with more safety; and in the attempt, the collar slipt over his head. Fearful now of some mischief, it was agreed he should be shot. The ball missing him, the report of the pistol alarmed him so much, that he sprung to the door of the yard he was confined in, and, making his escape, seized this poor man, who stood directly in his way, and did not relinquish his hold until stunned by a blow on the head, and was afterwards killed. The body was opened, but no diseased appearances presented themselves; his stomach was completely filled, even to distention, with a quantity of hay he had eaten in the kennel.

It appeared, on inquiry, that the first symptoms of constitutional derangement were noticed the day preceding, during dinner, at sight of which he felt great disgust; and it was with difficulty he could be prevailed on to eat, complaining of nausea, headach, and oppression at the præcordia; and, in the evening, wishing to take some warm ale he saw preparing for another person, it had no sooner touched his lips than he became greatly agitated, and could not swallow more than two or three draughts. His rest was disturbed during the night, and he complained of a sensation of suffocation when lying down, so as to oblige him to keep an erect position. Notwithstanding these symptoms had existed several hours, I was not sent for until the following morning, about nine o'clock. An emetic was directed, which he took with reluctance, from the horror he felt at the sight of fluids. However, he did hastily swallow it, after many attempts, and was convulsed for about half a minute; its operation was distressing, from not being willing to drink with it. A quantity of yellow fluid was evacuated, but without relief to the stomach. Two blisters were applied to the external fauces, and two ounces of strong mercurial ointment directed to be rubbed into the inside of the legs and arms. A consultation was appointed at twelve o'clock, at which many professional gentlemen were present; and it was further directed, that a blister should be applied to the scrobiculus cordis; another to the wound on the thigh; and one to the inner side of the arm affected; ten grains of musk, ten of carbonate of ammonia, and one of opium, to be given in the form of a bolus, every three hours, and six ounces of strong mercurial ointment to be well rubbed over the whole surface of the body. It was likewise directed, that Webb's medicine, recommended by Mr Blane, in the Medical and Chirurgical Review, should be administered, which was prepared in the form of a decoction, with milk, because the poor man now found less difficulty in swallowing fluids than solids; although the former, when taken, produced so marked an agitation of the whole frame; indeed, so incapable was he of taking any thing of substance, that the boluses were obliged to be dissolved whenever he took them. *

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* It is a remarkable fact, and worthy of observation, that the swallowing of fluids was accomplished with comparative facility, when strong pressure was made upon the

At six o'clock in the evening we met again, and found our patient much worse; every symptom of the disease had increased to an alarming degree. He appeared frightened when any person approached him; spat up a considerable quantity of frothy mucus; and the constriction of the throat before spoken of, (the situation of which he described by pointing to the pomum Adami), became so distressing, that he requested the window of the room might be opened to admit more air. From this circumstance, it was proposed that the operation for tracheotomy, as suggested by Dr Rush, should be resorted to, whenever the sensation of suffocation should become so urgent as to justify such an attempt for the preservation, or rather the prolongation of life. Antispasmodic clysters, with laudanum, were directed to be administered every three hours. At twelve o'clock at night, an opening was made into the trachea, between the thyroid gland and the sternum, but without affording any relief. The difficulty of breathing gradually increased, until about half an hour before his death, when he became suddenly relieved; he now drank, and asked for a bason of water to wash his hands in, both of which he did without expressing any uneasiness; but immediately after which, sunk into a lethargic state, and died about four o'clock in the morning. It was observed by those present at his death, that, from the quantity of mucus collected about the glottis, respiration would have ceased sooner had it not been for the opening made into the trachea.

Not in any stage of the disease did this poor man make violent convulsive efforts of the body; nor was he ever unconscious of what passed about him. His pulse was, throughout, small, feeble, and a little irregular, averaging from 80 to 100 beats in a minute.

Dissection, thirty-two hours after death.

The body entirely free from putrefaction; inflammation of the mucous membrane of the trachea, extending from the glottis to the subdivisions of the bronchiæ, and considerable mucous secretion, similar to that spat up during life; the right lung distended with air, the left collapsed; no unusual quantity of fluid in the pericardium; the heart fatty; the left ventricle distended with black blood, the right almost empty; the diaphragm free from diseased appearance; no inflammation of the pharynx or œsopha-

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the lesser lobes of the ears. This expedient was suggested by a gentleman present, who recollected to have read of its good effects in lessening the difficulty of swallowing in cynanche tonsillaris.

gus; the stomach greatly distended with air, but void of solid contents; considerable erythematous inflammation about the cardia; the intestines somewhat distended with flatus, but healthy; the liver healthy; the gall-bladder distended with bile; the spleen, kidneys, pancreas, and urinary bladder, of a natural appearance; unusual vascularity of the pia mater and brain, the lateral ventricle containing about six drachms of fluid.

The morbid appearances of the brain are probably the consequence of a fall he had about a year previous, down a flight of stairs, from which he received a violent contusion of the head, and at the same time fractured the lower jaw.

This accident confined him to his house for many weeks; indeed he never perfectly recovered it, being ever after subject to violent headach and derangement of intellect, whenever he committed any irregularity in living.

Another case of the hydrophobia has lately occurred in a village near Nottingham, any particulars of which I am not in possession of, except that the disease occurred about a period of six weeks after the bite, and was extremely rapid in its progress. I mention it because the dog that bit this individual belonged to a man in this town, and was not suspected to be mad until ten days after he had bitten this unfortunate sufferer. He eat and drank heartily, showed no signs of indisposition, hunted as usual, and occasionally went into a neighbour's house, among children, without injuring any one of them; but on the morning of the tenth day, he was observed in the street, snapping at every dog that passed, and was immediately taken in and destroyed.

This is a very curious and important circumstance, inasmuch as it tends to show, that canine madness, in its incipient stages, is very difficult of detection; and that a dog, at this period of the disorder, is capable of communicating the infection, which I believe, is not generally understood.

Nottingham, Feb. 11*th*, 1809.

III.

Case of Aphonia cured by Purgatives. By Richard Jones, M.D. Surgeon, 2nd Dragoons.

Margaret Crawford, wife of Matthew Crawford, serjeant in the Scots Greys, aged 21, of a fair complexion, rather above the middle stature, and well shaped. Has been subject for some years to periodical headach: was of a costive habit; but menstruated regularly previous to her marriage. On the 14th of August 1808, and, as she thought, in the ninth month of uterogestation of her first pregnancy, was suddenly attacked with paralysis of the tongue.

I visited her about an hour and a half after the attack; found her pulse sixty and hard; her skin cool; her countenance was of its natural appearance, that is, being neither flushed nor turgid. There was an evident prostration of strength. She could neither speak nor protrude her tongue, which seemed moist and clean; but she appeared to understand what was said to her. When asked if she felt pain in any part, she, with a doleful expression of countenance, applied her right hand to her head, and then to the epigastric region. She had also great difficulty in swallowing.

Twenty ounces of blood were immediately drawn from her arm, which brought on a tendency to deliquium. An hour afterwards a bolus, consisting of one scruple of electuary of scammony and six grains of calomel, was administered, and in four hours the same was repeated. She had one loose stool in the evening, but continued incapable of speaking, and still had a difficulty in swallowing. When now asked if she felt any pain, she again pointed to her head and stomach. The surface became very hot, and the pulse was now quick and full. An embrocation of equal parts of oil of turpentine and camphorated spirit, was ordered to be rubbed on the external parts of the throat and neck, every second hour. About three o'clock A. M. on the 15th, after having had five or six fetid dark-coloured stools, she uttered some inarticulate sounds, and from that time gradually recovered the perfect power of speech; so that, when I visited her at ten o'clock, she could converse as freely as before the attack. The pulse was soft, and about 90; she could protrude her tongue; said that she had, when first attacked, violent pain in the head, oppressed breathing, with pain, and sense of great weight about the præcordia, and that after the first stool, she began to find some relief.

On the 24th of the same month she had an attack similar to that above-described. Some calomel and jalap were administered, which operated in a few hours, and she again obtained relief. On the 18th of September she was delivered of a healthy child, after a natural labour. She recovered as soon as healthy women mostly do after parturition. At the time of my writing this she is nursing her child, and in perfect health.

The above is, perhaps, strikingly illustrative of the good effects of purgative medicines in aphonia, when constipation appears to be an exciting cause; otherwise it does not seem probable they would be serviceable. If not indicated, they are likely to be injurious, from their debilitating effects on the system. At all events, their indiscriminate and unlimited exhibition, may be productive of pernicious consequences. It cannot, however, be too strongly impressed on the minds of young practitioners (and to such only do I presume to direct my remarks), how necessary it is for them, before they prescribe in such a case, to ascertain accurately the state of the bowels. It will not only be useless, but highly pernicious, to attempt the exhibition of tonics, or heating medicines, until the intestinal canal be restored to the due performance of its functions. When the latter shall have been effected, the former, though sometimes proper, will often be unnecessary.

It may not be thought irrelative to the present subject, to mention a case of hysteria, which occurred in my practice, and which was cured by purgatives. I shall therefore shortly state the most prominent parts, referring those who have not read Dr Hamilton's Treatise, "on the Utility and Administration of Purgative Medicines," to that valuable work, for further information on this important subject.

In the beginning of February 1806, I was called to visit a daughter of the barrack-serjeant of the cavalry barracks, Ipswich, who was then affected with hysteria. I found that she had arrived in England about a week before, from Goree, on the coast of Africa. The vessel in which she sailed had made the passage in twenty-eight days, from Goree to Portsmouth; during that time this woman had not had a stool. She did not taste animal food during the voyage, having lived on tea and biscuit. It did not require much sagacity to discover that purgatives and clysters were indicated in her case. I may add, that by their use she got perfectly well in the course of ten days.

February 23d, 1809.

IV.

A Case of Purulent Ophthalmia occurring in an aged person; with remarks on the Origin of that Disease. By W. SIMMONS, Surgeon at Manchester.

THE subject of the present communication was ABRAHAM ROSCOE, a man 75 years of age, of an athletic make, who became an in-patient of the Infirmary, on the 6th February

1809. About a fortnight before, he went out in the morning, in his usual good health, to work as a labourer on the high-way, at the distance of a few miles from Manchester, when he first perceived the invasion of this disease. To use his own words, 'all at once,' and without any assignable cause, he was seized with a violent pain in both his eyes, which soon increased to a state of high inflammation. What means had been previously used, I know not; but when he first came under my care, both eyes were very greatly inflamed, the palpebræ were much tumefied, and the discharge was purulent, and very copious.

To repress this complaint, the usual means were applied with assiduity, and increasing advantage; but, owing to his great age, he grew peevish and discontented, and, at the end of ten days from his admission, he was, at his own request, made an out-patient; since which, I have heard nothing of him, and therefore I am ignorant of the termination of the case. However, what I have seen has supplied materials for a few remarks relative to the origin of this disease, which may prove not altogether undeserving of attention.

As an authority, then highly respectable, I may be allowed to quote the opinion of Mr Ware, who has assigned the origin of the purulent ophthalmia to an *acrimonious vaginal discharge*; and this can be supposed to operate only upon the principle of inoculation, by forming a lodgement upon the child during birth. And I must confess, that where the mother had been affected with the fluor albus at the time of labour, and the purulent ophthalmia had ensued in the child, such an opinion might seem specious at first sight; but when we have considered the frequency of that female affection, and the comparative rareness of this species of ophthalmia, we shall, I think, be inclined to doubt the validity of the opinion. Within my own observation, the purulent ophthalmia has occurred, where the existence of leucorrhæa was denied; and a medical friend, to whom I had communicated the contents of this paper, has informed me, that, in his whole practice, and he has been in the habit of delivering from thirty to fifty women annually, for many years past, he has never met with more than two or three instances of the purulent ophthalmia; yet many of his patients had the fluor albus upon them, preceding delivery.

In Roscoe's case, doubtless the disease (than which I never saw one more distinctly marked) must have had a different origin; for it is impossible to suppose, that, at such an advanced age, an acute disease could have sprung from, or been at all influenced by such a cause.

But admitting, for the sake of argument, that the discharge of fluor albus had possessed a property adequate to the alleged effect, the increased mucous discharge preceding parturition, would dilute, or carry off any former collection of this noxious fluid; and the vagina, greatly shortened, undergo a process similar to ablution, by the dribbling, or sudden flow of the liquor amnii, after the bursting of the membranes, so as to render the opinion still less and less probable.

My own conviction therefore is, that the ophthalmia occurring in a child, whose parent, at the time of its birth, was affected with leucorrhaea, is merely a coincidence of circumstances, in themselves wholly unconnected, rather than the result of cause and effect; and consequently, that this supposed origin of the ophthalmia purulenta is purely *hypothetical.*

But, perhaps it may be asked, whence then would you deduce the origin of this disease? To this question, however, I am by no means prepared to give a direct answer; nor is it often easy, after having demolished an hypothesis, to replace it by an opinion that shall be deemed incontrovertible. But I should be disposed to reason thus:—That the organ of vision, at so tender an age, is very sensible to the stimulus of light; that the system, in general, is possessed likewise of a greater share of irritability than in the adult, rendering it susceptible of an impression from any occasional cause, such as injury in the birth, or sudden exposure to cold, and moisture (without great care), immediately on its extrusion from an equable and moderate temperature, in which it had been so long confined. And I must confess, that the more frequent appearance of the ophthalmia purulenta, at certain seasons of the year, more than at others, has induced my belief, that, occasionally at least, it has partaken of the character of an infantile epidemic; to account for the production of which, I should then refer to a cause more general in its operation than any before recited, namely, to *a peculiar constitution of the atmosphere.*

With regard to the treatment of the purulent ophthalmia, I have nothing new to offer: nor is it of any consequence, since the plan recommended by Mr Ware has with me been invariably successful.

March 7th, 1809.

V

Discrepance of Opinion in Two of Dr WILSON'S *Papers, pointed out by* JAMES WOODHAM, Esq. London.

I BEG leave, through the medium of your Journal, to offer a few remarks on what I conceive to be a discrepance of opinion in the two papers of Dr Wilson's, published in the *13th and* 15th Numbers, on the subject of fever. In his first paper, "On the Diagonsis between Fever and Phrenitis," he says, *Phrenitis* is, in every respect, except the universality of the symptoms produced by the local affection, of the nature of a phlegmasia. The fever is regulated by the state of the local affection; it is also a fever of the same nature as that which attends other inflammations; it is a *synocha* with a *contracted hard pulse,* which we *never meet with in simple fever.*

In his second paper, "On Inflammation, and its Connexion with Fever," after pointing out the *analogy,* which he had attempted to prove between the two diseases, he says, "The *hot* stage of fever then must be regarded as a state of *general inflammation,*" &c.

These two passages, if I understand them rightly, appear to be completely at variance. For, if the *contracted hard pulse* be *present,* as except in particular cases, it is, I believe, in every considerable inflammation, and if in simple fever it be *never met with,* the hot stage of that fever, however close may be the *analogy,* cannot be *identified* with inflammation. Whether there be such a thing as simple fever, as is maintained by Fordyce and most physicians, or whether fever be almost always connected with inflammation, as Dr Beddoes's researches would lead us to suppose, is not my business now to inquire. If, however, simple fever do exist, it cannot be considered as synonimous with general inflammation, from the *character* of the *pulse* laid down by Dr Wilson in his first paper. It follows, therefore, as a legitimate conclusion from the premises, that, even granting his hypothesis, or fact if he please, of the state of the capillaries, he is not authorised, from his *own statement,* to regard fever and inflammation as one and the same disease.

London, Nov. 30*th,* 1808.

VI.

Observations on the Treatment of Diabetes. By Mr ROBERT WATT, Surgeon, Paisley.

"Does not the cure of some diseases depend upon the same principle as the suspension in cure of gonorrhœa by a fever."—JOHN HUNTER.

IN every period of the history of medicine, there has not only been practice opposed to practice, and theory to theory, but one fashion has succeeded another with an astonishing rapidity. To the readers of your Journal little illustration of these facts are necessary. One practitioner treats burns and scalds by heating, another by cooling applications: one cures the gout by carefully wrapping the limbs in warm flannel, another by plunging them in cold water: one combats fevers with wine and opium, another by gruel and purging.* These, though abundantly striking, are but a small sample of the oppositions in medicine. To notice the fashions, would be to enumerate the various articles which, from time to time, have entered the materia medica, and almost every possible manner in which these can be prepared or compounded.

From a belief that there is no disease without a corresponding remedy, medical men have been much in search of antidotes. The task of finding a specific for each disorder, reminds me of the labour of the Chinese, in inventing a distinct character for every word in their language. Happily for the improvement of the healing art, the doctrine of specifics and antidotes is fast losing ground, and medicines begin to be estimated, not by their *occult* operations, but by their *evident* effects on the body. However numerous and diversified the hair-splitting systems of nosology may represent diseases, the means of cure, like the simple sounds in language, are few and obvious. Galen remarked, that bleeding and purging were the two legs of physic, and it is doubtful how far the art has been improved by the legs which have since been added.

In one instance a particular prescription cures the patient; in another, where the case is exactly similar, the same medicine has no effect. Why? because in the one instance it purged, and in the other it produced costiveness; or, perhaps, in the one instance it was aided by warmth and abstinence, while, in the other, it was opposed by cold and repletion. I have seen these contrarieties finely illustrated, in using the preparations of *steel*, and various other *tonic* medicines.

The wisest and most vigilant may be deceived, especially if the objects are seen through the medium of theory. That nature sometimes triumphs in spite of art; or that there are more ways than one of accomplishing the same thing, are very probable conjectures. When opposite practices are proposed, we should endeavour to reconcile them, or find out the circumstances in which the one or the other will succeed; and, above all, we ought to mark, with the most scrupulous attention, *what* happens in the system *before*, *during*, *and after* the treatment. If a single case detailed in this manner had been published for every *complete* system of medicine and nosology which has appeared, our knowledge of the nature and cure of diseases would have been much more complete than it is.

It is scarcely possible to conceive two plans of treatment more directly opposite, than the cure of diabetes by an unlimited *use* of animal food, and that by depletion and abstinence. Those who have witnessed the effects of the one, will scarcely be *convinced* of the reality of the other; and those who have seen neither, will no doubt be sceptical with regard to both. In order to reconcile this contradiction, my first attempts were to discover such a discrepancy of symptoms as might account for the diversity of practice. But in this I did not succeed. The symptoms in Capt. Meredith's case are as like those in Stevenson's as can be expected in any two patients labouring under the same *disease*. The same observation applies to most of the other cases. Having failed to discover a diversity in the symptoms, my next object was to reconcile the two modes of treatment. How far I have succeeded I leave others to judge. If you think the investigation deserves a place in your Journal, I shall thank you to insert it.

The treatment, according to my plan, is to reduce the quantity of blood already in the system; to diminish the supply of new materials; and to afford a certain proportion of stimuli. The *first* is accomplished by venesection, or any other competent evacuation; the second by abstinence; the third by blistering, mercury, &c. The effect of this treatment on the system is, increased reaction, indicated by some degree of fever, and terminating in the restoration of all the excretions. These three I shall denominate the treatment, the renovating process, and the cure. In the discussion of them, I shall show, that the treatment followed by Dr Rollo, in the cases which have been successful, though apparently opposite, is nearly allied to that pursued by myself; that the renovating process was also similar, and that the cure was characterized by the same circumstances in both.

I. In the cases which I have published, the treatment was pretty uniform; they were all bled, purged, and enjoined abstinence; their diet was ordered to consist chiefly, though not exclusively, of animal food; various stimuli were prescribed, such as blisters, mercury, lime-water, bitters, and, in a case which I had more recently, wine was given to a moderate extent, and with a very happy effect. In some of the minor parts of the treatment, a trifling variety is discoverable, but nothing at all worthy of remark. Depletion, abstinence, and the exhibition of stimuli, are its leading features.

Owing to the manner in which Dr Rollo's cases are detailed, it is extremely difficult to ascertain the extent of any particular part of the treatment. Some of them consist merely of a register of the drink and urine. In most of them the *quantity* of food taken is not once mentioned. The first, and by far the most successful, is that of Captain Meredith. Its publication excited uncommon interest. Every practitioner admired the ingenuity of the theory, and the skill with which the treatment was conducted, and wished for an opportunity of giving the practice a fair trial. Its simplicity recommended it to the physician; and the apparent ease with which it could be carried into effect, made the patient submit to it with cheerfulness. It was admitted, on all hands, that if it did no good, it could do no harm; and the case was hopeless at any rate.

That *abstinence* to a considerable extent obtained in these cases, may be inferred from the nature of the diet to which they were restricted: "animal food alone," and that, "as rancid as possible." Their constant deviations, in spite of every remonstrance, are convincing proofs that they soon acquired a dislike to it. Their being denied every thing else, might be the means of enforcing, though inadvertently, a sufficient degree of abstinence. The sickness produced by the hepatized ammonia, must also have contributed to the same end. If any doubt should remain with regard to the difficulty of persevering in this kind of diet, it is done away by the testimony of Dr Rollo himself. "We have to lament," says he, "that our mode of cure is so contrary to the inclinations of the sick. Though perfectly aware of the efficacy of the regimen, and the impropriety of deviations, they commonly trespass, concealing what they feel as a transgression to themselves. They express a regret that a medicine could not be discovered, however *nauseous* or *distasteful*, which would supersede the necessity of any restriction in diet." Such is the strong language in which Dr Rollo expresses the *dislike* of his patients to animal food. *Evacuation* had not been neglected in Captain Meredith's case. He was bled once, and it had a good effect. "He felt lighter, cooler, and more cheerful, and had less pain about the kidneys." He was also purged repeatedly. This was the case too with most of the other patients. Purging and vomiting never failed to produce at least a temporary relief. The disease itself is a system of evacuation, and, in a vigorous constitution, would perhaps require nothing else but the aid of abstinence to accomplish a cure. From what I have seen, I am convinced that the balance of the system is frequently restored in this way, without any medical aid whatever. *Blisters* were also used; and it is to be remarked that, in Captain Meredith's case, they were not healed up till the cure was nearly accomplished. Here then are several circumstances, and these the most material, in which the two plans of treatment agree.

II. The renovating process.—On the perfect or imperfect nature of this depends the success or failure of the treatment. "If the system be duly unloaded, if it possess sufficient vigour, and be stimulated to exertion, reaction goes on to a proper crisis. If it fails to produce this salutary effect, it falls back, collects new vigour, and renews the conflict; but being, in general, unequal to the task, after a longer or shorter struggle, a confirmed diabetes, dropsy, or some other equally incurable disease, terminates the patient's sufferings."

Stevenson's treatment began on the 4th September. At that time the pulse was 60, and had often been much lower; it was also feeble, and scarcely regular. On the 9th it was 70; from the 11th till the 18th, about 80; after that it gradually fell to about 70, when it became stationary. The pulsations were also much stronger; and it was remarked that the veins on the surface of the body became full, and that the blood flowed with greater force each successive bleeding. In Mr J. C's case, the pulse was not accelerated, but it was materially improved in point of strength and regularity; the blood also flowed more freely, and went through the same stages of improvement as in the other cases. Mrs Caldwell's treatment began on she 26th March: At that time the pulse was 65 and feeble; on the 2d April it was 72; on the 4th 76; on the 5th 84; on the 8th and 10th 78; after which, in the course of eight or ten days, it gradually fell to 70 or 72. There was also, in this case, the same improvement in point of strength and regularity. The treatment of Rose Mackay's case began on the 15th January; the pulse was then 68, weak, but regular; on the 21st it was 84; on the 23d 100. From this time till the 29th it varied from 100 to 106; afterwards it gradually fell; on the 15th February it was 74. As the treatment of this case occurred since the publication of my other cases, the following short outline will perhaps be interesting to some of your readers.

The patient was an unmarried female, about 30 years of age, a native of Ireland. She had been four months under the disease. For the greater part of that time, she passed more than twenty pints of exceedingly sweet urine in the twenty-four hours, twelve ounces of which yielded, by evaporation, from 16 to 17 drs. of extract, of the consistence of wax or Burgundy pitch. Previous to the attack she had been very healthy, and possessed a good constitution. Her strength and spirits were now greatly exhausted; her extremities constantly cold, and her skin dry and harsh. The catamenia had been absent for three months; she was troubled with an excessive itchiness about the external orifice of the urethra, and was very costive. Soon after the commencement of the treatment, her solid food was reduced to two ounces of bread, and a very little butter to breakfast; the same weight of bread, and as much steak to dinner, and the same quantity of bread to tea. Her drink was limited to two pints and a half in the twenty-four hours. This included her tea and three glasses of port wine. She took about a grain of the muriate of mercury, daily, for the first ten days, without any effect, except some degree of sickness. She was bled every second day, in all 108 ounces in 16 days. She took now and then a laxative, and lastly, lime-water and bitters. By the middle of February the diabetic symptoms were entirely removed; her allowance of food was a little increased; and she began to gain flesh and strength daily. During the treatment she could scarcely turn herself in bed. In the beginning of March she performed a journey of three miles. She is at present under a course of steel medicines, with a view to restore the catamenia.*

In this instance I was particularly struck with the progressive turgescence of the veins on the surface of the body. At first, they appeared as so many blue stripes, without the least elevation. After the patient had been bled several times, the blueness diminished, and they became turgid to the finger-ends. Gradually as this took place, the warmth of the body returned. The evacuations by the intestines, and by the kidneys, at least equalled the whole of the ingesta, consequently there could be little supply of new blood. This turgescence must, therefore, have arisen from a different distribution of what was already in the system. It would appear that, in the beginning of disease, there is always a deficiency of blood in the venous system; hence the shrinking of the body, and the loss of colour. As reaction proceeds, the arteries disburden themselves, and the veins become distended; hence the redness and fulness which precede a crisis. A remarkable instance of this unequal distribution of the blood occurred about a year ago. A girl, 16 years of age, had been affected, for more than two years, with a disease of the hip-joint. The head of the femur was destroyed, and there was very extensive ulceration around the upper part of the thigh. By the excessive purulent discharge, a diarrhœa, and pectoral complaint, she was reduced almost to a skeleton. Her whole body had a kind of semipellucid appearance, and seemed destitute of blood. A slight purple streak here and there marked the course of the larger veins. In the progress of the disease, some considerable vein had been laid open; and discharged, in a short time, from three to four pounds of dark venous blood. It then stopped for some time, and she did not seem to suffer from the loss. It burst again, and it was not till she had lost more than seven pounds, that she expired.

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* All the patients whose cases I have published continue in perfect health.

From these statements it is obvious, that an increased action of the sanguiferous system is the invariable consequence of the treatment I have pursued, and to this, as I before remarked, the cure is to be attributed. I shall now take a review of the practice of Dr Rollo, not as interwoven with any particular theory, but as it may be gathered from the reports themselves.

The treatment of Captain Meridith's case commenced on the 16th October. The pulse was then 84. On the 19th, the animal diet was adopted. Two blisters were applied to the loins; he was also bled to a small amount; on the 12th November, the pulse was 67. On the 17th, in consequence of an over-dose of hepatized ammonia, it was 50; at the same time, he was seized with extreme "languor and giddiness." From the 21st till the 24th, he had sickness and vomiting, with griping in the bowels, resembling a common bilious attack. The pulse is not mentioned; but, from the commotion which was excited in the body, there is every reason to suppose it would be accelerated. On the 26th, the urine was quite natural, and only three half pints; "thirst quite allayed, not having even the desire to drink." 29th, One of the blisters healed, the other healing. On the 18th December, he was free from all complaints. The circumstance of greatest importance in this case is, the increased reaction which took place from the 17th, and particularly from the 21st till the 24th November. The salutary effect of this febrile action is distinctly marked. On the 26th, the urine was reduced to *three half pints*, and *quite natural*. Previous to that, it was variable. After that, though he deviated almost daily from the regimen, no relapse ensued. Here, then, are several circumstances, in which the two plans of treatment agree, abstinence, evacuation, and blistering. They agreed, too, in the increased reaction which followed; and it is presumable, from the complete recovery which Captain M. obtained, that all the functions of the body were, from that *crisis*, restored to their healthy actions.

The second case, that of the general officer, is very minutely detailed. The treatment began on the 9th January; at that time the pulse was 94; on the 11th and 12th 84; on the 13th 96; afterwards it varied from 72 to 92. In nineteen of the daily reports it is stated to be 84; in eleven of them 80; in six of them 86; in two 92; in one 82; in one 78; in one 76; and in one, on the 4th February, it was as low as 72. It is to be remarked, that the varieties which took place were quite promiscuous. Nothing occurred which could indicate increased reaction. The pulse was higher on the fourth day of the treatment than in any subsequent report. Besides this evidence of the want of reaction, every report of the state of the pulse is coupled with some account of the skin. In twenty-five of these reports it is said to be "cool and soft;" in five "cool and moist;" in two "moist;" in two "soft and moist;" and in one "soft;" on the 11th February "skin rather warm, with a little flushing;" on the 12th "cool and soft;" on the 16th "skin rather warmer than usual;" on the 17th "cool and soft;" on the 19th "skin rather warmer than usual, and not so soft;" on the 20th "skin cool and soft." These three instances are but trifling exceptions to the total absence of fever during the whole treatment, and the result shows that no material advantage was derived. On the 20th January he was ten ounces heavier than on the 9th; but on the 25th February, when the treatment was abandoned, he was five pounds lighter than when it began. He died on the 18th August. This case is important, as it shows that, without fever, or increased reaction, no cure is to be expected. Though much disposed to deviate from the regimen, he never appears to have acquired the same reluctance to his diet which Captain M. did; hence there is no reason to suppose that any considerable degree of abstinence was enforced, nor was there any considerable evacuation produced, so as to enable the system to take on a new action.

The third case, that of James Walker, who was treated in the Edinburgh Infirmary, contains little more than a register of his drink and urine. The pulse is but once or twice mentioned; nor is there any thing stated which could lead to a knowledge of the state of his body, or the effects which the medicines produced. From his irregular habits no plan of treatment could be steadily pursued. He was twice admitted, and as often discharged, without receiving almost any advantage.

The case of John M'Lean, in the Glasgow Infirmary, is also defective. The pulse is only once mentioned. He began the animal diet on the 18th January. From this time till the 23d February, no material change occurred; the urine varied from five to eight pints; after this, he appears to have had something like Capt. Meridith's bilious attack, accompanied with "violent griping and purging." On the 28th, "the urine was four pounds, and nearly natural." From this time till the 10th March, he rather relapsed, and the urine increased to six pints, and was "less natural in taste and smell." He was dismissed on the 10th May. His urine was then "about five pounds." He died in the beginning of August, of an inflammatory complaint. The salutary effects of the increased reaction, from the 23d till the 28th February, are obvious. The crisis, however, seems to have been imperfect, for he soon began to relapse.

The case of John Rodger, who was also treated in the Glasgow Infirmary, is more complete than that of M'Lean. He was admitted on the 10th January; "pulse and belly natural;" urine 36 pints. Before the animal diet was adopted, it was reduced to 20 pints. On the 5th February, it was still 13 pints, and sweetish; from this no material change took place till the 5th March, when he was seized with "griping and purging." On the 13th, the urine was still nine pints; on the 25th, it "was rather increased, and very sweet." At this time he was seized with frequent vomiting. On the 31st, pulse 115; on the 5th April, "violent headach;" on the 7th, "nausea, heartburn, and headach;" on the 8th, "giddy," pulse 100; on the 11th, three stools, in consequence of a purgative; "feels himself better, and in better spirits; pulse 80, urine 6½ pints, and nearly natural." He continued to gain strength and flesh till the 30th, when the urine was again sweet. He left the house the next day. Though this patient continued to labour under the disease, and died some time after, yet it is obvious from the reports, that the increased reaction, which took place in the end of March and beginning of April, was succeeded by very considerable relief. The whole case goes to prove, that wherever Dr Rollo's plan is attended with any thing like success, it is by inducing an increased degree of reaction in the system; and till that happen, no good is done.

The case of John Clarke, who was treated by Dr Gerrard, is detailed with much minuteness. It began on the 13th February. At that time the pulse was 90, and the quantity of urine 17 pints. From this till the 12th March, the pulse gradually fell to 58, and the urine was reduced to five or six pounds. After this, the pulse began to rise; by the 25th, it was 90, "appetite not so strong;" 26th, "restless night, vomited frequently;" 27th, "appetite lessens, feels uncomfortable after eating;" 30th, the urine, for the last four days, has not amounted to four pounds in the day; 31st, "pulse from 85 to 90, for a week past;" urine five pounds ten ounces. After the beginning of April, the reports consist chiefly of a register of the patient's weight. The pulse is not mentioned, nor any thing else which could determine the degree of reaction. On the 25th May, he left the house, "urine from 5 to 5½ pints." From the whole reports, it is obvious, that the febrile action, though often excited, was inconsiderable. The pulse was never higher at any time than when he was admitted. His original weight was supposed to be 140 pounds; when the treatment commenced it was 112 lib. 4 oz. When dismissed, 111 lib. 4 oz. His having rather lost weight than gained, is a convincing proof, that the advantage he derived was but trifling. After he left the house, nothing was heard of him. Had the reaction which came on about the 25th March been carefully promoted, the result would, in all probability, have been very different from what it was.

Mary Jackson was also under the care of Dr Gerrard. The treatment was continued from May till December, when she died. This patient remarked, "that, on the occurrence of spontaneous vomiting, which lasted several days, her water was reduced in quantity; but when the vomiting subsided, the quantity became as great as before." Of this case, no regular reports are given; but from the above observation of her own, it may be inferred, that the same benefit attended that commotion in the system, which excited vomiting, as has been remarked in the other cases; and that, when this subsided without effecting a crisis, the patient became as bad as ever.

Elizabeth Francis was treated by the same physician. She was admitted on the 28th September, and dismissed on the 12th November. She relapsed, and was readmitted on the 13th February, and discharged 29th March; she continued well on the 15th May. No daily reports are given, consequently no inference can be drawn.

Four cases follow, communicated by Dr Cleghorn of Glasgow. The first, a weaver, appears to have been much benefited, if not cured. "His skin, formerly arid, became soft and moist, and he gained flesh and strength." The other three were women. Of these cases no reports are given, nor is any thing known of their subsequent history, except that one of them died of an inflammatory complaint, about ten days after her dismissal, and another still remained in the house, when the accounts were sent off to Dr Rollo. To this I may add what Dr C. himself told me about a year and a half ago—" that, for some years past, he had modified the treatment recommended by Dr Rollo, in consequence of the death of some patients, from violent inflammations, soon after their recovery from diabetes; that only *two* of his patients were alive; that both of them recovered without a rigid abstinence from vegetables, and that he considered the risk of inflammation, resulting from the use of animal food, as calling loudly for investigation." The risk of inflammation is certainly very great; Dr C. says he lost *some patients.* Dr Bardsley gives an account of one; and, if I am not misinformed, a very striking instance of this occurred recently. I am confident, from all I have been able to learn on the subject, that in nine cases out of ten, the practitioner is *either* incapable of exciting a sufficient degree of reaction by the use of animal food, without depletion, *or*, if he do succeed, the patient soon after, or during the very treatment, falls a victim to some inflammatory disease. Unfortunate cases are seldom published, else the improvement of the healing art would be more rapid than it is.

Dr Aldrich's case, communicated by himself and Dr Storer, was begun in March, and continued, with variable success, till July, when he died. Though his adherence to animal food was far from rigid, he acknowledged he derived advantage from the regimen, and also from the use of soda water, which he took at the same time. No reports are given.

The case of Nixon, by Dr Jamieson, is a well marked instance of the diabetes mellitus. He appears to have derived advantage from the animal food, though not exclusively followed. No reports are given, and the result of the case is unknown.

The reports of a young lady's case, by Mr Sherriff, are continued occasionally from February till June. But the state of the pulse is not mentioned, nor any thing else which could determine the degree of reaction. She is said to have been benefited by the treatment; but as nothing is known of her subsequent history, it is impossible to say whether she was cured or not. The reports terminate on the 6th June; and, so late as the 31st May, a little bread produced " six ounces of urine, highly saturated with sugar." Unless something very extraordinary happened in the last six days, and of this we are not informed, I see little reason for believing that the patient was much better when the treatment was abandoned than when it begun; yet Mr S., in his inferences from the case, makes the following very pompous observation: " Formidable as the diabetes mellitus has been hitherto found, it can now be moulded to the wish of the *practitioner.*" I question if the lady would have joined in saying that it can be moulded to the wish of the *patient.*

The case of a lady follows, treated by Mr Houston and Dr Rollo. The treatment was continued from March 1797 till May 1798. She does not appear, however, to have been cured; for she was still enjoined to adhere to the regimen, which was not necessary, if the disease had been removed.

A gentleman, treated by Dr Pearson, derived advantage from the use of animal food. No regular reports are given. "The pulse varied from 70 to 80 in a minute." What became of the patient is not known; he continued under treatment when the report ceased. The same thing may be said of the case by Dr Willan. The patient experienced some relief, but nothing is known of the subsequent history.

The last case is by Mr Thomas, under the direction of Dr Rollo. It was a formidable instance of the diabetes mellitus. Little or no advantage seems to have been derived from the treatment. It was begun on the 2d September 1797. He died on the 16th July 1798.

From this short sketch of Dr Rollo's cases, it is obvious, that the success which attended the use of animal food, was by no means considerable, except as a palliative; and that when it accomplished a cure, it was by inducing reaction. This is the link which connects the two plans of treatment. It is a subject to which I would wish particularly to draw the attention of medical men. It is not enough that this or that practice be adopted. The question is, has the treatment produced *the effect* which *must* precede a cure? I know of no subject of greater importance, nor one which has been so generally neglected. For, not only in the treatment of diabetes, but in that of almost every chronic disease, it ought to guide the physician.

III. The cure. Of these nineteen cases, seven died, either during the treatment, or soon after: two, Walker and Clarke, were dismissed nearly in the same state in which they were admitted: eight were discharged relieved, or in a state of *supposed* convalescence; but nothing is known of their subsequent history. Two, Capt. Meredith and Elizabeth Francis, were cured. This report is taken from the second edition of the Doctor's work: if any thing more decisive has happened since, it has not come to my knowledge. From the practitioner's attention being almost wholly directed to the state of the urine, little can be gathered with regard to the other symptoms. The result of the treatment, and of the renovating process, ought to be not only the recovery of the urinary organs to a healthy condition, but the restoration of all the functions of the body. "In diabetes, the arid skin, the foul mouth, the constipated bowels, the vertigo, the indistinct vision, the chilly state of body, the depression of spirits, and various other apparently remote symptoms, are perhaps of as great consequence as the altered secretion of the urine. The complete recovery of the patient depends on the removal of all of them. By overlooking this circumstance, practitioners have often been deceived. They have imagined they cured the patient, when they only relieved one symptom, by aggravating another." In some instances, they are able to save their patients from one complaint, that they may fall victims to another, which perhaps kills in one-hundredth part of the time. The following passage, in a letter of one of my correspondents, gives a very distinct idea of what I conceive ought to be the object of the practitioner. "Though the deranged state of the urinary secretion obtain in a very remarkable degree, we are not to forget the great whole of which it forms a part; we are not to lose time in fruitless endeavours to restore these organs to their original healthy state, without attempting some general means to recover the whole system. It is to no end, that you harass and beat the videttes and outposts of the enemy, while their main body remains unmolested, increases its strength, and fortifies its position." The great object of the practitioner should be, to eradicate the disease entirely from the constitution; and I repeat, that this can be done by no other means, but by increased reaction. The one action, as Mr Hunter would say, must be destroyed by the other. Whether a cure is attempted by animal food, by depletion, by abstinence, by stimuli, or by a combination of all of them, the *medium* through which it is effected is the same. The solids must perform a certain motion: it is all one whether it be done by *spurring* them on, or by diminishing their burden.

VII.

Two Cases of Carditis. By W. Henchman Crowfoot, Esq. Member of the Royal College of Surgeons.

Mary Pelham, a servant in the family of the Rev. Dr Temple, of Northwood Place, about 22 years of age, of a tall stature, spare habit, and delicate appearance; had been under the care of a respectable practitioner at Lowestoffe, for two or three weeks, when she was removed into this neighbourhood; and, on the 13th of October 1807, I was requested to see her.

She complained of most acute pain and peculiar distress at her heart, which, she informed me, she had had about three weeks; her skin was very hot; her pulse too quick to be counted, and very irregular; her respiration not very laborious; she was able to lie down in her bed without inconvenience; had little or no cough; but was continually sick.

She told me she had suffered from a similar complaint two or three years before, from which she had partially recovered; but had never since been able to take exercise without great palpitation of the heart, and consequent distress.

When I first saw her, the disease had made too great a progress to expect any other benefit from medicine than slight alleviation of the pain and sickness. She remained sensible to the last moment of her existence, and lived just a fortnight from the time of her first coming under my care.

On opening the thorax, the pericardium was found *closely adhering* to the *whole* surface of the heart, the apex of which was, by that means, confined down to the diaphragm; a considerable portion of ossific matter was deposited between the two lamina of the pericardium, and every part of the heart afforded marks of most severe inflammation. The lungs were in a healthy state, as were the abdominal viscera.

William Lewis, aged 23 years, of a tall and thin stature, fair complexion, and strumous appearance, formerly employed in husbandry, but for the last year or two as a gentleman's servant, applied to me on the 22d of December 1808. He complained of general febrile symptoms; of considerable pain in his head, back, and limbs; of great loss of strength, &c.; his tongue was furred; his urine high-coloured; and his pulse weak, but regular. He attributed his illness to cold, caught by exposure to the night air. A typhus fever was very prevalent in the town at the time; it was thought this might be an incipient case. An emetic and purge were given in the first instance, which operated properly, without much relief to the patient; and small doses of calomel, with saline medicines, were afterwards ordered, with anodynes at bedtime. This plan was continued to the 29th, when the fever appeared to take on decidedly a rheumatic character. The feet, knees, and wrists, became swelled and painful, and he *began* to complain of pain in his left side; the debility was much increased; a stimulating embrocation was applied to the side. The rheumatic symptoms became more severe; and the common remedies for acute rheumatism, with the exception of bleeding, were made use of. Towards the end of January, the pain in the side, attended with great distress about the heart, became the most troublesome symptom, but still seemed to alternate with the pains in the extremities. On applying the hand to the left side of the thorax, the heart was felt to beat with great labour and difficulty. The pulse, though weak, gave a very peculiar jerking feel to the finger. It is but due to truth and candour to state, that, till this time, the real nature of the disease had not been suspected; and my patient, naturally of a weak constitution, was now so extremely reduced, that I did not feel myself justified in employing, what, in the beginning, might have been of the most essential service to him, the free use of the lancet. I, however, ordered a grain of digitalis to be given every six hours, and a blister to be applied to the side. The digitalis soon produced a powerful effect on the pulse, by diminishing its frequency; but as it occasioned also great irregularity, without appearing to afford the slightest relief to the poor sufferer, it was discontinued.

The patient's strength was now supported by a mild but nutritious diet, and the severity of the pain mitigated by opiates. However strange it may appear, in a week or two he began to mend under this plan, and so far recovered, as to be able to leave his room, and even take a short ride on horseback. Towards the end of February, symptoms of hydrothorax appeared, which rapidly increased; his respiration, which had not been impeded during the former part of his illness, now became very laborious; his legs anasarcous; his cough troublesome; and he was unable to lie down in his bed: his pulse still continued regular, but retained to the last the same jerking beat. He died on the 5th of March. During his disease, his stomach had no particular irritability, until three grains of James's powder had been given, without my knowledge, which produced incessant vomiting for three days; it however, subsided, and he retained his food, which was taken in reasonable quantity till the day before he expired.

Upon dissection, a considerable quantity of water was found in the cavity of the thorax; four and twenty ounces of that fluid were also contained in the pericardium. The heart and pericardium bore strong marks of recent inflammation; their surfaces were rendered universally and peculiarly rough by a deposite of coagulable lymph; and were connected, in many places, by numerons bands of the same, which were evidently very newly formed. The left lung had suffered somewhat from the pressure of the distended pericardium. There was nothing amiss in the other, nor in any of the abdominal viscera.

Beccles, April 29. 1809.

VIII.

An Account of some Experiments, relating to certain opinions of Bichât. Communicated in a letter from Dr Philips Wilson to Dr Andrew Duncan junior.

Dear Sir,

You will remember that, about a year ago, I wrote to you, stating, that I had been accused, in the Edinburgh Medical and Surgical Journal, of having borrowed many of the opinions contained in my essay on the nature of fever from a work of Bichât, and asking you if you knew the title of the work to which the critic alluded, which you informed me was *Recherches Physiologiques sur la Vie et la Mort.* Although I have not yet seen this work, I have, within these few weeks, met with a pretty copious account of it, and have been much pleased to find, that the opinions of Bichât, on many parts of the subject, perfectly coincide with those I have long entertained. I confess I am the more so, because it is in my power to prove, not only that I am not guilty of the plagiarism of which I am accused, but that the chief of the opinions in question, with an account of various experiments in support of them, were published by me at Edinburgh, long before Bichât published them in Paris, and the others in London, in the same year in which his work appeared.

The following are the opinions which I am accused of having borrowed from Bichât.

1. That the brain exercises no direct control over the motion of the heart, or other muscles of involuntary motion.

2. That the death of the brain occasions that of the heart, by interrupting the breathing, which it does by destroying the powers of the diaphragm, and intercostal muscles.

3. That the functions of life may be divided into organic and animal; that is, in more common language, vital and animal; of which the latter are subject to constant intermissions and renewal, their organs requiring intervals of rest; the former incessant, their organs being endowed with an excitability, which is never impaired, except by disease or death.

4. That organic contractility, that is, vital excitability, has no relation to a centre, but exists in every part, independently of its existence in any other; while animal contractility, that is, animal excitability, in every part, depends on the existence of a common centre.

5. That respiration is placed, as it were, between what Bichât calls organic and animal life, that is, between the two sets of functions, the vital and animal; partaking of the former in as far as it influences the state and circulation of the blood in the lungs; and of the latter, in as far as it is performed by muscles wholly of voluntary motion; the intercostal muscles and diaphragm.

These opinions were published by Bichât, in the work above alluded to, in the year 1799.*

The first, namely, that the brain exercises no direct control over the motion of the heart, or other muscles of involuntary motion, I endeavoured to defend, in a paper presented to the Royal Medical Society of Edinburgh, in the year 1791 or 1792, I forget which; the paper was inserted in the manuscript books of the Society, where it still remains. It is divided into two parts; the first is wholly occupied by arguments in favour of this opinion; and, in 1795, I published the following experiments, in an Essay on Opium, which appeared to me to establish it.

I removed a piece of the cranium, about the size of a sixpence, in two rabbits, and as much of the dura and pia mater as I could, without injuring the brain. After replacing the integuments, and joining the lips of the wound by a suture, I injected about a dram and a half of a solution of opium in water, under the skin.

Soon after the injection of the opium, the animals were seized with violent convulsions. But the motion of the heart, which I examined from time to time, was not in the least affected, except that it became more frequent when the limbs were convulsed. In the space of some hours, the animals were reduced to a state of great debility, the muscles of voluntary motion being affected with a degree of paralysis. But the motion of the heart still continued strong and regular.

I thought I felt a slight irregularity in its motion in one of these rabbits, about an hour before its death; this I could not again perceive. On opening its thorax, a few seconds after its death, I found the heart contracting regularly. The contractions of the ventricles continued for near ten minutes, gradually becoming less vigorous. Those of the auricles were seen for a much longer time.

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* He also mentions them in his *Anatomie Generale*; but this work appeared later than the *Rech. Phys.*

This rabbit had been considerably debilitated the day before the experiment, by a quantity of opium thrown into its stomach. It lived about 24 honrs after the solution was applied to its brain.

The other was quite healthy, and had rather more of the solution applied to its brain. It died in nine hours. Its heart beat strongly, and with perfect regularity, both during the spasms and subsequent paralysis of the limbs. It was at last seized with very strong convulsions, in which it almost instantly expired.

Immediately after its death, I applied my hand to the thorax, and felt the heart beating regularly for a few seconds. Its beats, when the hand was first applied, were little inferior in strength to those of the heart of a healthy rabbit. It is a curious circumstance, that, at the time the animals used in this experiment were thrown into convulsions by the slightest touch, their sensibility was so much impaired, that, on passing a knife through the foot of one of them, it showed no signs of pain, only starting convulsively, as it did when touched with the finger.

After removing a part of the cranium, and laying open the thorax in several frogs, I applied a little of a solution of opium to the brain; the muscles of voluntary motion were soon seized with violent spasms, but the motion of the heart continued perfectly natural, except when disturbed by the convulsions of the trunk and limbs. During the remissions of these convulsions, a very slight irritation is capable of renewing them; but on irritating the heart, even roughly, in this experiment, I could excite no irregular contractions in it.

Dr Munro senior informed me, that he had for several years performed the following experiment publicly in his anatomical theatre. A solution of opium in water was injected through a hole made in the cranium of a frog, in such a manner that it passed along the spinal marrow, and part of it came out at a hole made in the lower end of the spine. By this mode of applying the opium, the animal was instantly killed.

An experiment by which the nervous system is so comepletely deranged by the action of opium, seemed well fitted for determining, whether it is capable of directly influencing the motion of the heart, through the medium of the brain and spinal marrow; I therefore repeated it in the following manner. A hole was made in the cranium, and another in the lower end of the spine, in eight frogs. A strong solution of opium was then injected as above. Most of the frogs were deprived of sense and motion as soon as the solution was injected. In two or three it was necessary to repeat the injection before the same effect was produced; and although they all appeared for some time quite dead, in the space of two or three minutes most of them were seized with a trembling in the limbs, and some with strong spasms. These, when they had not previously taken place, were often excited by laying open the thorax. This was done in all; and in those in which it excited convulsions or trembling, as well as in those in which no motion whatever took place, after the injection of the solution, the motion of the heart was found as vigorous as it is in healthy frogs. The solution used in this experiment should be sufficiently strong to deprive the animal of motion, at least till the thorax is laid open; otherwise the motion of the heart is influenced by the strong spasms induced on the muscles of the trunk and limbs.

The following manner of making this experiment is perhaps more conclusive. After making a hole in the cranium, and another in the lower part of the spine, I laid open the thorax in several frogs, and observed carefully the motion of the heart. I then injected the solution as formerly, by which the animals were instantly deprived of voluntary motion, and appeared quite dead: But the motion of the heart was not in the least affected; it continued with the same frequency and vigour as before the injection of the solution.

I have found that, although irritating the brain mechanically (like the application of opium to this organ) produces violent and universal convulsions in the muscles of voluntary motion, both in frogs and rabbits, it does not at all affect the motion of the heart. Fontana makes the same observation respecting frogs.

The abdomen of several healthy rabbits was laid open, and the peristaltic motion of the intestines, which became very considerable a few seconds after they were exposed to the air, carefully observed. A large portion of the cranium was removed in another rabbit, and the brain cut across its whole depth, in three directions. A solution of opium in water was then injected into the brain by means of a small tube, passed in various directions through its substance. This was immediately followed by violent and universal convulsions of the muscles of voluntary motion, which, in the space of a minute or two, became quite rigid, and as hard as a piece of board. In this situation its abdomen was laid open, and the peristaltic motion of the intestines found in all respects similar to that observed in the other rabbits used in this experiment. I could not observe that it was stronger or weaker, more or less irregular in the one case than in the other.

On examining this rabbit twenty-five minutes after the solution was injected, I found the muscles of voluntary motion flaccid, and the animal dead. The motion of the intestines, however, was still strong in many parts of their tract, and continued so for thirty-six minutes longer, during which I observed it. It was not again examined till forty-four minutes afterwards: the intestines were then cold and motionless.

The peristaltic motion of the intestines, like the motion of the heart, is not in the least affected by mechanically irritating the brain. In this experiment, the animal must be well secured, otherwise the convulsions of the limbs, by agitating the intestines, will increase the peristaltic motion.

In the essay in which the above experiments were published, others are related to prove, that opium, applied to the heart, does not affect distant parts through the medium of the nervous system, farther demonstrating the independence of this organ.

The second opinion, namely, that the death of the brain occasions that of the heart, by interrupting the breathing, which it does by destroying the powers of the diaphragm and intercostal muscles, I also stated, in the paper presented to the Royal Medical Society, and shall beg leave to copy verbatim what I said of it in a course of lectures which I gave in Edinburgh in 1796.—“ Why does the motion of the heart continue in apoplexy, while that of almost all the other muscles of the body is lost? Most cases of apoplexy arise from the application of mechanical or chemical agents to the nervous system. But it would be easy to adduce experiments, capable of proving, that mechanical, and, as far as they have been tried, chemical agents, applied to the brain, although they affect violently the muscles of voluntary motion, are incapable of deranging the motions of the heart. But why should the motion of the heart be instantly destroyed in certain cases of apoplexy, produced by a more powerful cause than usual? It would not be difficult to show, that the muscles of inspiration are altogether muscles of voluntary motion, and, consequently, that they must cease to act when the powers of the nervous system are destroyed. But when they cease to perform their office, the blood no longer undergoes the usual change in the lungs which is necessary for the continuance of the heart's motion.”

The following digression, as connected with the subject before us, will I hope be excused. Bichât has adopted an ingenious opinion of the late Dr Johnstone of this place, that the cause of certain muscles being subjected to the will, and others independent of it, is, that the former are supplied with nerves directly from the brain, the latter with nerves passing through ganglia. It is surprising that Bichât should adopt this opinion, while he admits that the observation on which it is founded does not hold in every instance; for it is evident that, if it fails in any one, we must look out for some other explanation of the phenomena.

But it does not seem necessary to have recourse to this, or any other hypothesis, to explain why certain muscles are subjected to the will, and others independent of it, if we find that, in every instance, the former are excited by a stimulus communicated through the brain, the latter by a stimulus directly applied to the muscles themselves; for even a muscle of voluntary motion, if the stimulus which excites it be directly applied to the muscle itself, acts involuntarily. If we sprinkle salt on the denuded muscles of a limb, or wound them with an instrument, they are thrown into involuntary contractions. We shall find, on inquiry, that this is really the case; that all the muscles of voluntary motion are excited through the medium of the brain; of involuntary motion, by stimuli immediately applied to the muscles themselves.

As far as respects the principal muscles of either class, there can be no difference of opinion. Every one admits that the muscles of the limbs are muscles of voluntary motion, and that they are stimulated through the medium of the brain, and that the heart and blood-vessels are muscles of involuntary motion, stimulated by the blood which is immediately applied to them. But, besides the muscles of voluntary and involuntary motion, physiologists suppose that there is a third class, which, partaking of the nature of the other two, are partly muscles of voluntary, partly of involuntary motion. Dr Gregory, in the eleventh chapter of his *Conspectus Medicinæ Theoreticæ*, after enumerating what he supposes to be the muscles of voluntary and those of involuntary motion, observes: "Medium fere hos locum inter occupant respirationis musculi, septum scilicet transversum musculi abdominis et qui inter costas jacent, et quotquot cum costis ita conjunguntur musculi, ut horum contractio eas vel firmare vel elevare vel deprimere possit." To these, most physiologists would add certain muscles, which Dr Gregory regards as muscles of involuntary motion; those of the rectum and bladder, and their sphincters.

It is true that none of these muscles are either so perfectly subjected to the will as those of the limbs, or so independent of it as the heart and blood-vessels; on a closer view, however, it will appear, I think, that this is not owing to any peculiarity of the muscles themselves, but to the nature of their functions; and that they are all in the strictest sense either muscles of voluntary motion, excited through the medium of the brain; or of involuntary motion, excited by stimuli immediately applied to them.

Can we give any definition of a muscle of voluntary motion, but that whose action we can renew, interrupt, retard, and accelerate at pleasure? This definition applies as strictly to the muscles of respiration, as to those of the limbs. Nobody feels any difficulty in renewing, interrupting, retarding, and accelerating their action as often as he pleases. We cannot, indeed, interrupt it for a considerable length of time; but this is not from any want of power over the muscles, but for the same reason that we are obliged to call the muscles of the arm into action, when a candle is held to the fingers. In both cases we are unable to bear the sensation excited, and instinctively call into action the muscles which remove it. It is true, that the action of the muscles of respiration continues during sleep; but it is for the same reason that the action of the muscles of the limbs is exerted during sleep, when a continuation of the same position causes uneasiness. The muscles of respiration, then, are muscles of voluntary motion, whose action is habitually excited by a peculiar sensation, and consequently through the medium of the brain.

Over the rectum and bladder, on the other hand, the will has no direct power; and they are never excited, except by the stimulus of their contents. It is true, indeed, that they are to a certain extent subject to the will, but it is through the intervention of other muscles, which are altogether muscles of voluntary motion. We can increase the stimulus of their contents, when they are of a certain bulk, and thus call them into action, by gently pressing them against their contents by the action of the abdominal muscles; and every one with a little attention may find, that, without acting with those muscles, he is quite unable, at any time, to excite the action of either the bladder or rectum. And so connected is the action of the abdominal muscles with a stimulus applied to these cavities, that when it is considerable, they are called into action against every effort of the will, in the same manner that all the muscles of voluntary motion are called into involuntary action, by the operation of an emetic.

We can also, at pleasure, interrupt the action of the rectum and bladder, if the stimulus which excites it is not very powerful; but neither is this by any direct influence exerted on these muscles themselves, but through the medium of their sphincters, both of which are muscles of voluntary motion. It will be evident to any one who will make the trial, that he can at pleasure excite, interrupt, retard or accelerate the action of these muscles. The circumstances which lead us at first view to suppose that we do not possess this power, are, that their range of action is very limited; and their antagonists, the rectum and bladder, acting only occasionally, they remain for the most part in a state of gentle and uniform contraction, in the same way as happens to the muscles of one side of the face, when their antagonists, those of the other side, have become paralytic; or to the flexors of the limbs, when the extensors are divided: and this state of gentle contraction is as readily increased at pleasure in the sphincters, as in the muscles of the face and limbs. We have no means of lessening it, either in the one case or the other, except by acting with the antagonist muscles. In short, the sphincters of the rectum and bladder, are muscles of the same nature with the *orbicularis oris*; only the range of action in the two former, partly from their being of less extent, and partly from their having fewer antagonist muscles, is more limited. They are called into action for the purpose of closing the cavities of the rectum and bladder, when our sensations teach us, that the contents of these cavities are discharged, and consequently are stimulated through the medium of the brain. Every one feels, as I have just had occasion to observe, that he can make this effort when he pleases, unless the stimulus applied to the rectum and bladder is so great as to overcome the efforts of volition.

It appears, then, that all the muscles are either muscles of voluntary motion, excited through the medium of the brain, or muscles of involuntary motion, excited by stimuli applied immediately to the muscles themselves. We cannot surely, therefore, be at a loss to say, why the former set of muscles are subjected to the will, and the latter independent of it. If the muscles of respiration continue to act in apoplexy, while those of the limbs have lost their power, it is not that the one set of muscles is more affected than the other, but that a powerful stimulus is applied to the brain, tending to excite the one, and not the other. The patient breathes in apoplexy, for the same reason that he moves his limbs, when sinapisms are applied to the feet; a due supply of air being withheld from the lungs, excites the muscles of respiration, in the same way that irritating the feet excites the muscles of the limbs; and if he continues to breathe after no motion can be excited in the limbs, it is because the stimulus which excites us to breathe, is stronger than any artificial stimulus we can employ. Men have held their hands in the fire till they were burned off; no man ever voluntarily interrupted his breathing till he became insensible. But as the quantity of stimulus necessary to excite the muscles of voluntary motion, as it acts through the brain, must be greater, in proportion as the sensibility of this organ is lessened, respiration is performed more slowly in apoplexy than in health. I speak of apoplexy, properly so called; of the disease which is induced, for example, when a man in health receives a blow upon the head; not of the disease which has obtained the same name, arising from gluttony, the excessive use of wine, &c. in which derangement of various kinds takes place, and the affection of the brain is often not the primary disease.

With regard to the three remaining opinions, the reader will find them considered at length in the first volume of my Treatise on Febrile Diseases,* the first edition of which was published in London in the same year that Bichât's work appeared in Paris. The experiments on which the fourth is founded, are related in my Essay on Opium, to which I refer in the above Treatise. †

Worcester, 29*th April* 1809.

IX.

On the Cases in which the Use of Arsenic is indicated. By JOHN JENKINSON, Esq. Surgeon, Oxford.

THE internal use of arsenic in *certain cases* of chronic rheumatism has been so much recommended, that I should gladly have declined saying another word upon the subject; but the circumstances which ought to regulate it, do not appear to be yet universally understood. I must, therefore, be excused for addressing myself to you respecting it; since it is necessary to point out, over again, what it will commonly relieve, and what it will not. If this be not done, a very valuable remedy in *proper* cases will soon fall into unmerited neglect, merely because it is employed in others which are not so. I am well persuaded that the *frequent failures* of this remedy, which have been bandied about of late from one publication to another, principally arise from this source; and that nothing but the means of making *a due selection of patients to take it*, is wanting, to make it almost as *certain* a medicine as we possess throughout the whole range of our materia medica. The particular instance which I have pitched upon, for the sake of enforcing the distinctions to be observed, occurs in your 18th Number, just published. Dr Bateman, in the course of his Quarterly

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* Chap. iii. Sect. 3. first edition.

† Vol. I. p. 483. first edition.

Report of Diseases, treated at the Carey-Street Dispensary, notices a painful affection of the gums, head, and face, which prevailed pretty generally, both in town and country, about last Christmas. Amongst other things, he tried arsenic in this complaint, which was confined to the muscles and integuments. He does not mention in what form or manner he prescribed it; but he describes it to have been " beneficial in *one* instance, in which the disease assumed something of the form of *megrim*, the pain returning in periodical paroxysms. On the whole, however, (he adds), that remedy has not seemed to be possessed of so much efficacy in *chronic rheumatism*, as the statements of Mr Jenkinson, and some others, would lead us to infer."

It is evident the Doctor considers the medicine in question to have been recommended in *every* form of that disease, and that *he is led to infer*, from its inefficacy in one form, the like inefficacy in every other. How far *the statements* to which he alludes will bear him out in this opinion, we will now proceed to inquire. The cases detailed in them, whoever may think it worth their trouble to afford them a re-examination, will be found to be of very *long standing*, *attended with great debility*; and the local affections, not of the *muscles* and *integuments*, but of the *ends of the bones*, *cartilages or ligaments*, or *of all three together*: The patients, in fact, were exactly such as might, *à priori*, be expected to benefit by one of the most powerful tonics and stimulants with which we are acquainted; whereas the patients to whom Dr Bateman exhibited the arsenic, were, *in all probability*, from the *recency* of their ailments, precisely the persons who are too easily *excited* to *bear* the remedy, even if their *pains* had not been of the very character, which those who have used it most, best know that it will much oftener aggravate than relieve. In short, the patients of *the statements* were either pretty far advanced in years, or reduced almost to skeletons by their torments; while Dr Bateman's, no doubt, were *comparatively* young or robust, if not both: The *joints* of the one were the seat of excruciating pains, while the *coverings* of the bones were the affected parts in the other. But perhaps it may be asked, Where have the differences you are *now* pointing out, been *expatiated* upon *before?* It is not to be expected that gentlemen will turn over the pages of the Medical and Physical Journal, for the sake of such communications as mine; suffice it to say, that I *have* pointed them out through that channel; and I believe more than once, a considerable time back. And Dr Bardsley, also, in his late volume, has done it with so much precision, that Dr Bateman will rather wonder, whenever he refers to his book, why he should have given arsenic at all in seven out of eight of his cases, than why his success with it should have been so sparing. In the *periodical case*, indeed, as the event proved, it was perfectly proper; and I very well remember having stated, in the Journal before mentioned, how much more successful arsenic is, where the pain, or other symptom, has *regular intermissions* of some length, than where it has not. An intermission of this kind affords a prospect of relief from arsenic, even where the circumstances are otherwise unfavourable, as may be instanced in tic douloureux, which almost always admits of more or less alleviation, while it observes certain periods with some regularity, and *no longer*; so that *regularity* of *intermission* may be said to take a *recent* and *superficial* affection out of the operation of the rule which governs other cases of the same nature. There is also *another* form of the disease, if the expression be allowable, which is so far to be excepted, that it is sometimes even curable in its *commencement*, and scarcely to be palliated in its *more advanced stages*; which (strange as it may appear) is the *reverse* of what happens with arsenic in chronic rheumatism in general. I allude now, to what Dr Haygarth has denominated "nodosity of the joints." Why a medicine *should* relieve principally in the more inveterate and advanced stages of a complaint, and fail in the earlier and milder ones, even when it does agree with the patient equally well, exceeds my philosophy to explain; we must, I fear, be content to know the *fact*, and sit down with a conviction of our inability to solve the enigma. And now, I hope, I may take leave of Dr Bateman, without any apprehension of his taking offence at the freedom of my remarks. I have not the honour of his acquaintance; but he may be assured that nothing has been farther from my intention than to say any thing unpleasant of him. I have had the correction of a *general error* in view, and not any private or individual purpose to serve, and shall be much disappointed in him, if his regard for the *truth* should not be sufficient to make him overlook the casual use of his name in the inquiry after it.

I perused Dr Kellie's communication upon arsenic, which appeared in your Journal some months ago, with the more pleasure, because the precautions he recommends are those which should invariably be attended to in the employment of that remedy. There is only one point that we differ upon:—he seems to think it is apt to determine to the *head*, to a dangerous, or at least to an inconvenient degree. It has not occurred to me to observe this; but, on the contrary, I have thought most headachs less frequent and intense during its exhibition. It would certainly be most improper to *continue* it in the event of any *inflammatory* attack of that part *arising*, as well as of any other important part; but I believe there are no reasons for *apprehending* any effects of this kind from arsenic *beforehand*, which are not common to all other stimulants, and to some which might be mentioned, perhaps in a much higher degree.

P. S. I am very glad to see the *general* utility of arsenic in the cure of diseases, in the hands of Mr Hill, who, as far as he has gone, leaves one under no temptation to follow him. If it had not been for his paper, I should have been apt to trespass upon your attention at still greater length, but it has, since his undertaking it, become totally unnecessary.

Oxford, April 29, 1809.

X.

On the Effects of Arsenic. By G. N. Hill, Surgeon, Chester.

(*Continued from No. XVII. page* 27.)

Rheumatismus Chronicus.

Mercury and opium have long held a considerable degree of reputation for the removal or mitigation of this very common and highly painful disease; but, in my practice at least, it has generally happened that, on intermitting their use, the complaint has too commonly resumed the old situations, and that with unabated force. As the effects of a long continued course of mercury have frequently proved very mischievous in certain habits and circumstances of the human system, and in others is totally inadmissible, I have for some years found arsenical preparations a far superior and less injurious remedy. The success attending their exhibition have been fully adequate to my most anxious expectations. Gentle saline aperients precede the introduction of arsenic with good effect; and, during its exhibition, the regular use of the flesh-brush, frequent change of clean flannel dress, sea-bathing, the Buxton waters, and the shower-bath, have been attended with marked advantages. Electricity also, in cases where pain has resided a considerable time with great obstinacy in one or two particular situations, has rendered the effects of the medicine more speedy, and likewise more durable.

Vermes.

Whatever subject of discussion may happen to occupy the pen of the most feeble medical writer, there is a solemn duty incumbent upon him, which no consideration ought to prevent his seizing every feasible opportunity of practising. Charlatanism still marches through the land, making woeful havoc, and bringing, if not immediate death, inevitable destruction to the health of thousands of deluded victims annually. The writer of these remarks was summoned, at an advanced hour of the night, some time ago, to visit a fine girl of seven years old, the last hope of a then affluent family, who, upon going to bed, had taken the prescribed dose of "Ching's Worm-destroying Lozenges," the effects of which had then nearly reduced her to the last extremity, and in fact did ultimately convey her to an untimely grave.

The anomalous fevers of infancy often give medical practitioners considerable trouble, and are generally apprehended to arise from worms; but whether they do so or not, the illness of the sufferer commonly proves very tedious, and to the anxious relatives extremely distressing. It is needless to dwell upon the ambiguity of symptoms in these febrile attacks, but perhaps not quite so to remark, that there is little dependence to be placed upon considering them as the consequences of worms, unless one or more of such insects have been discharged from the stomach or bowels; such indubitable evidence being the only absolute proof of their being connected with the fever. An ill-founded fear, and the caprice of folly, have proved the fruitful sources of much mischief in these complaints. Gentle purging, even where a slimy diarrhœa prevails, seems indispensable, where the arsenical solution is to be introduced. These remedies alone are commonly equal to the subduction of the disease, when regularly and cautiously administered.

When the lumbricus is the species of worm voided, a strong decoction of the caryoph. Indic. is a very safe and powerful vehicle for the solution, the combination acting with increased and more speedy effect.

Dyspepsia.

Defective tone of the stomach, and chylopoetic viscera, is frequently first evidenced (especially in young subjects) by the evacuation of a cream-coloured, or milky urine, than which there can scarce exist a greater proof of radical debility of those organs. As this is generally a primary symptom, which, if neglected, seems to lead to a multitude of others, increasing the difficulties of medical treatment and danger of the event as they daily advance, it demands the earliest attention. The arsenical solution, in most constitutions, possesses the power of preventing the miseries which too constantly follow the neglect of this state of commencing disease: previous gentle emetics and laxatives (not active cathartics) render this power more certain, and its effects permanent. The dyspepsia of inebriates, where they can be induced gradually to leave off their destructive practices before the abuse of stimulants has induced incurable disease, will find an excellent tonic restorative in the solution exhibited in the infus. lig. quass. or the Asiatic pill, with the infus. amar. of the Dispensatory.

The form of dyspepsia (if I may so term it), known by the name Pyrosis, seems to have become more frequent in this country than formerly. One of the causes of this augmentation appears to be the excessive use of tea and alcohol, especially among certain classes of the community. The symptoms of the complaint are well known. In addition to those commonly enumerated, a few patients have lately mentioned a peculiarly uncomfortable sense of coldness, always existing over the region of the stomach. Whenever this has been the case, arsenical remedies have proved very serviceable in removing the disease; their exhibition being preceded by, and occasionally alternated with moderate doses of rhubarb and kali vitriol; care being taken that fleecy hosiery, soft flannel, or what is called a bosom-friend, be constantly worn over the epigastrium.

Hypochondriasis.

This morbid affection, of such frequent occurrence and difficult management, may safely be considered as having always for its source some considerable derangement of one or more of the abdominal or pelvic viscera. Of these the spleen may be selected as one which is much oftener diseased than is suspected; at the same time it may not be inappropriate to observe, that this organ appears, from the consequences of its diseases on the stomach, to be of far greater importance to the general health than is in medical practice apprehended. But whether the spleen, liver, uterus, or any other viscus, has become so deranged in its functions as to constitute the first link of morbid change, the stomach and intestines are soon destined to bear a considerable portion of the general misery:—sooner or later the brain becomes affected; hence mental aberration. But the wide circle of symptoms and effects this subject opens to view, it is not on this occasion necessary for me to attempt to explore: it must suffice that I assure such readers as honour me with attention, that a very ample experience amongst a large proportion of this unhappy class of patients, entitles me to assure them, that arsenical remedies form a powerful weapon, in combating the formidable host of contradictory symptoms, and versatile irregularities of both body and mind, they have to encounter in the truly wretched hypochondriac, never losing sight of gentle and constant intestinal evacuations.

Epilepsia.

Much laboured attention has been devoted to this severe disease; antiepileptics abound. Some of the powerful medicines, so denominated, have occasionally seemed to succeed, as the nitrate of quicksilver for example; yet this, like all similar agents, appears destined to meet the fate which has sooner or later accompanied the most vigorous remedies, upon failing to cure nearly every desperate case to which they have been indiscriminately applied. That the nitrate will remove epilepsy, and will not remove it, are equally certain and well-known facts: The same observation holds good when applied to arsenic; but it is obvious, that this uncertainty of effect arises, not from any variable powers of these or any other active agents, but from the different states of the subjects to whom they are exhibited. It will be allowed, that no medicine employed deserves to be rashly withdrawn, when strict attention has not been paid to the primary rule for its administration, viz. that it be adapted to the species and circumstances of the disease about to be treated, and to the constitutional habits of the suffering subject. There occur too many cases of epilepsy, where no medicine whatever can be of any avail; those where arsenic has proved curative, have occurred in young subjects, principally anterior to the age of puberty, and of what is termed a delicate make, and feeble stamina, especially when the disease assumes, or very nearly approaches, a periodic form. The drunken epileptic likewise, when not of a full plethoric habit, has found a cure from the firm and judicious use of this potent remedy, due attention having been paid to the alvine evacuations.

Palpitatio Cordis

Is generally deemed a symptomatic affection; it is often a very troublesome one, and not unfrequently borne with less patience than severe pain. Many sufferers from this complaint, and a similar feeling about the epigastrium, are more alarmed, even for their existence, than at the approach of any more eventually fatal malady. Having experienced this horrible sensation, whilst a regular tea-drinker, I am rarely surprised at the sentiments it is prone to excite. It is very generally connected with very considerable debility; and when derived from this source, arsenic, in the pilular form, twice a-day, and a *small* dose of digitalis at bedtime, will generally prove successful in removing the complaint. Where the heart acquires a habit, as it were, of being readily excited into a state of hurried irregular action, upon every trifling occasion, this plan of treatment, with the addition of the shower-bath, has diminished this distressing affliction, and appeared to produce that degree of increased tone to the whole system, the want of which proved the fountain of predisposition.

Hysteria.

The sense of suffocation always, in a greater or less degree, accompanying hysteric paroxysm, gives the bystanders at the time, and the sufferer afterwards, the idea of wind being the cause of the whole fit; and, doubtless, a weakened tone of the stomach and bowels, is generally a concomitant of the disease. In the intervals of the paroxysms, whatever tends to remove this state, will be highly proper, and calculated to prevent their recurrence. On this principle, arsenic may be advantageously given to subjects of pale complexions, flaccid muscles, and constipated habits, conditionally; that unintermitted attention be paid to the alvine evacuations, and not merely as to the quantity and quality of the fecal matter daily discharged, but also that the pernicious air, nature attempts to transmit the same road, be not injuriously and foolishly suppressed. Fetids and carminatives, according to the versatility of symptoms, for which this Protean disease is so remarkable, form a powerful combination with arsenic, commonly succeeded by permanent good effects.

Melancholia.

This disease, like hypochondria, (of which, in fact, it is merely the ultimatum), is very commonly the offspring of some local visceral affection of the abdomen or pelvis. Although it is rarely practicable to ascertain exactly which organ is primarily affected, yet the stomach and intestinal canal never fail to be more or less deranged. The torpor of these parts, (on whose health so much of human existence is momentarily dependent), will often be surprising. The secretions of the stomach, in particular, are so altered, as to coat its inner surface with a viscid mucus, of wonderful tenacity, and great abundance. The intestines also partake of this situation, evincing, in a majority of cases, great insensibility to accustomed impressions, manifested by obstinate constipation, and the difficulty of exciting healthy action by the most powerful medicines. But as I may, on another occasion, presume to trouble the public with a more extended view of this malady, and its opposite mania, it is here barely necessary to recite under what circumstances of melancholia arsenic becomes a powerful curative auxiliary. These are, when the torpor and vitiated secretion are in a considerable degree removed, by appropriate remedies of the mild evacuant class, in subjects attacked about the middle of life, of a thin form, and where no tendency to pulmonary affections has at any time been known to exist. When arsenic is deemed a suitable medicine in this disease, the dose may be safely extended much beyond what it can with safety in any other; in which respect, it stands merely on a par with all other remedies exhibited to genuine melancholics, such subjects commonly requiring double or treble doses to produce a common effect. But although this be the fact, the cautious practitioner will not act with less circumspection, especially when the symptoms of disease begin to yield to those of returning health. The arrival of this happy æra will be the signal to lessen the doses of such a medicine as arsenic, or withdraw its use altogether for a time; for now, the stomach becoming daily more sensible to its influence, the effects, without due precaution, may prove deleterious.

Ascites.

Dropsy, whether general or local, it is well known, often proceeds from defective absorption, probably not so frequently from redundant exhalation. Whatever may have been the causes, when the principal part of the attempted cure is found to depend upon increased action of the absorbent system, the class of sorbentia does not afford a more energetic article than arsenic. The circumstances under which it has proved eminently successful, were, when given to subjects not far advanced in years, of temperate habits, and where the liver and other principal viscera were, as far as could be ascertained, tolerably sound. It is here necessary to remark, that the power of the remedy is much increased, and its success rendered more certain, if the subject for whom it is employed can be induced to refrain almost altogether from the use of liquids during the medical treatment. Where fortitude and desire to recover are great, this plan will be faithfully adopted, and frequent success be the result. Arsenic may be usefully alternated in ascites with tinct. nicotian. when the latter acts as a diuretic, without producing distressing sickness; but these medicines must never be given very near each other. Their salutary effects have appeared to be much aided by a flannel bandage, worn as tight round the abdomen as can be borne, after rubbing the part well before a fire for half an hour, twice a-day, with a strong camphor liniment.

Rachitis

Is one of the diseases of infancy, which, happily for the rising generation, may safely be ranked in the yet too scanty catalogue of declining maladies, as well as to frequency of occurrence as violence of degree. The superior modes of managing children seems to be the principal of the causes of the decrease, of what in this country constituted a very frequent and deplorable evil; the disposition to distorted spine, with enormous head, distended abdomen, and full spread joints, seem to be the last relics of rickets. It is undeniably the duty of all medical men (as already observed) to lose no favourable opportunity of rendering all the service in his power to the public health. I therefore avail myself of this opportunity to enter my feeble protest against the use of every species of machinery whatever, so much the fashion of the day, to prevent or cure distorted back or enlarged joints, excepting those which can be applied without pain, and that are calculated to give full support to the spine, without pressing on any particular spot. Even the common steel-collar and back-board have done incalculable mischief. Injudicious mechanical contrivances not only accelerate the evils they are mistakingly intended to prevent, but actually produce some, which, but for this unfortunate interference, might have been avoided. Among all those internal means comprehended in the class of medicines calculated to remove the radical debility, and defective deposition of bony matter indicative of this disease, which it would be superfluous to enumerate, arsenic is entitled to rank as a powerful tonic stimulant. Where great abdominal fulness and distention prevail, gentle doses of rhubarb and kali vitriol should be frequently interposed, and every opportunity embraced of applying friction in a suitable form and degree, as well to the whole body as to the enlarged abdomen. If the solutio arsenici be given night and morning, its effects have appeared to be powerfully seconded by an occasional use of the tinct. ferri muriat.

Convulsio.

Some parents lose a quick succession of children by this very frequent, and too often destructive disease; and others, although not quite so unfortunate, scarce ever rear a child to puberty, without its being at some period or other attacked with convulsions. Few families entirely escape its justly dreaded effects; hence it is a continual terror of the nursery. The bills of mortality furnish a melancholy note of the sum total, embraced by this single disease. When traceable to local causes; as dentition, hydrocephalus, worms, external irritation, or the like, these affections will, of course, receive appropriate attention; but when proceeding from general irritability, where the paroxysms are short, but of frequent recurrence, and the evil nearly confirms the persuasion of hereditary disease, arsenic proves a most excellent prophylactic, where due warning has been given by an actual attack and recovery, that similar situations may be expected. If combined occasionally with the musk jalap, an excellent antispasmodic is produced; nor need the youngest subject be debarred its use from timid apprehension. A single drop of a mild solution, from a two dram phial, with or without a teaspoonful of the musk, may be given as soon as a paroxysm has subsided, and be repeated twice or three times daily, for some time, due attention being always directed to the regular state of the bowels. Thus a permanent removal of the fits will commonly be obtained; strict adherence to the rules for the administration of the remedy already stated never being forgotten.

(To be concluded in the next communication.)

XI.

Some Account of the Fasting Woman *at Titbury, who has at present lived about two years without food.* By Benjamin Granger, Member of the Royal College of Surgeons, London, and of the Royal Medical Society, Edinburgh.

> " Universa historia medica a primis temporibus plena est hominum, sed potissimum feminarum, quæ mensibus integris, demum annis, absque cibo vixerunt."
>
> Haller, Element. Physiol. tom. vi. p. 171.

Ann Moore, the subject of this extraordinary case, is about 58 years old. For many months before she adopted her present unaccountable mode of existence, her appetite for food had been entirely gone, and, in consequence, the amount of her sustenance remarkably small. What little food she did take, she swallowed with difficulty, and suffered, for the space of one or two hours afterwards, the most agonizing pain in the region of the stomach. The severity of the pain sometimes threw her into convulsions. On the 4th of November 1806, being worn down by this distressing complaint, she yielded her work, and from that day became confined to the house. The only solid sustenance she now took was bread, which she washed down with water or tea, without milk or sugar. Her allowance of bread, from the 4th of November, to the 17th of the succeeding

March, did not exceed a penny-loaf in a fortnight. It was on the 17th of March 1807, that she entirely relinquished nourishment; and, up to the present time, she has rigidly persisted in a course of complete abstinence, unless the following particulars can be looked upon as material objections.

1*st*, She consulted a physician on the 9th of March 1807, and the medicines which were on that day ordered, she continued to take for eleven weeks. This is a copy of the original prescription.

℞ Aloes socc. ʒss.
Pulv. Rhab. ʒj.
Sapon. Venet. ʒss.
Syr. q. s. ft. pilul. xxiv.
Capt. ij. om. nocte h. s.

℞ Aq. ammon. acet. ℥ij.
Sacch. alb. ℥ss.
Sal. nitri ʒij.
Tart. emet. gr. iss.
Tinct. opii gtt. 40.
Sp. æther. nitros. ℥ss.
Aq. font. ℥v.
M. ft. mistur. capt. coch. larg. ij. ter die.

Mrs Moore, 9no Martii 1807.

2*dly*, She did not wholly abstain from liquids until September 1808; but swallowed, generally every day, very small quantities of water or tea, without milk or sugar.

3*dly*, In the month of March 1807, she drank, for several successive days, a tea-cupful of hot gruel; a part of the gruel, therefore, might have been taken *after* the 17th.

Such is the nature of Ann Moore's protracted abstinence; and, from her present condition, it cannot be known to what limits it may yet be extended.

Notwithstanding she has kept her bed since April 1807, she still possesses considerable vis vitæ. Her pulse is feeble and slow. Her mental faculties are entire. Her face, though there is a degree of sadness expressed in the countenance, deviates surprisingly little from that of a person's in health. Her voice is moderately strong. She will sit up in bed, during the visits of strangers, and join in conversation, without undergoing any apparent fatigue. Her limbs are exceedingly emaciated. The abdomen is remarkably sunk in, so that the integuments appear to cling to the back-bone. Pressure on the abdomen gives pain. She is occasionally troubled with flatulence, and is subject to constant pain of her head and right side; she has had no perfect sleep for several weeks.

I have thus endeavoured to represent the condition in which I found Ann Moore, at a time when she had fasted for a period of two years. I will now advert to the progress of her case.

It appears, that she has been a valetudinarian for the last ten years, having never been, in that time, entirely free from pain of head and right side. The pain in the region of the stomach, after eating, progressively got more and more intolerable, from November, when she began to live on bread, to March, when she took food for the last time. About the end of March 1807, a diarrhœa came on, and remained until September the 4th, of the same year. The alvine evacuations did not consist of feculent matter, according to her account, for she says, that what she took came away unchanged. Since the 4th of September 1807, nothing but flatus has been discharged from the bowels. She has not voided any urine for the last seven weeks; but before she entirely left off liquids, she passed small quantities of urine once in three or four days. The liquids and medicines, like the solid food, were swallowed with difficulty, and succeeded by pain in the region of the stomach. In the month of September 1808, the catamenia appeared for the last time, after an interval of twelve months. It is an important fact, in the history of this case, that whilst the term of abstinence has, month after month, been extending, no effects have been produced by it on the system. I have repeatedly visited the patient, to observe any change that might have taken place in her complaint, but have found her, from time to time, in exactly the same state. Very lately she has lost the use of her lower limbs, and convulsions have come on from so slight an excitement as surprise.

An hypothesis has been started by some of my medical friends, that Ann Moore is an impostor. But what particulars of the case, according to this hypothesis, are impostures? Is the loss of appetite real or feigned? Was the tremendous pain after eating an imposture? The abolition of alvine excretion, and the suppression of urinary discharge, are they, according to this hypothesis, impostures? And yet I may with propriety remark, that there is such connexion among the different particulars of the case, that the admission of one would go far to prove the existence of another.

It is apparent by a little reflection on Ann Moore's case, that abstinence qua abstinence has no effect on her system. The existence of the patient, after having fasted two years, with a countenance not far removed from the appearance of health, will not be looked upon as an effect of abstinence. If abstinence had any power over the system, surely it would produce emaciation. But mark the progress of the disease! For many months together, no *wasting* is observed; on the contrary, at distant periods of time, the patient, in point of flesh, strength, and spirits, suffers no alteration whatever. In the recorded cases of this inexplicable complaint, it appears very strikingly, that, although the powers of assimilation are suspended, emaciation does not *necessarily* follow the abstinence. When Janet Macleod had fasted four years "her pulse, which with some difficulty Dr M. felt, was distinct and regular, slow, and to the extremest degree small. Her countenance was clear, and pretty fresh; her features *not disfigured or sunk;* her skin felt natural both as to touch and warmth; and her breasts were round and prominent, like those of a healthy young woman. *Her legs, arms, and thighs, not at all emaciated.*" * In the case related by Dr Eccles of "a beautiful and handsome young woman, about 16 years of age," who fasted 34 days, and soon after 54 days, we find, that "all the time of her first and second fastings, she declared she had no sense of hunger or thirst; and when they were over, *she had not lost much of her flesh.*" †

According to theoretical views of the human system, the secretion of urine, and expulsion of feces, are considered as little less than vital functions. It is a general fact, however, in the disease of Ann Moore, that these functions for the most part cease. I must here apologize for the length or frequency of quotations, introduced in this or any other part of the paper: The works, to be sure, from which the quotations have been selected, are in the hands of most of your readers; but the important examples of long continued abstinence, recorded in them, have lain concealed. I shall cite the cases of *Inedia prodigiosa*, published in the works of *Hildanus*. When Hildanus made his observations on the case of Apollonia Schreiera, she had then lived three years without meat or drink. After mentioning that she was about 14 years of age, he says, "Diligenter ego illam perlustravi, et singula observavi. Facie erat tristis et melancholica, toto corpore carnosa satis (ventrem excipio, qui ad spinam dorsi planè depressus vergebat). Hepar reliquaque viscera ventrem manu tractando, quasi in schirros concreta essent, percipiebantur: *excrementa nulla ejiciebat.*" ‡ Eva Flegen began to fast in the year 1596, and Hildanus saw her in the year 1612, when she was about 37 years of age. During the whole 16 years, she had neither meat nor drink. Hildanus was at much trouble to obtain a complete history of the woman's case, for the use of his friend Lentulus, who was at that time compiling a work, de inediis. Those particulars of the case which are now most in view, of course, are not omitted. "Venter versus spinam (he says) planè retractus erat, cùm ego ipsam viderem, sine ulla tamen duritie partium contentarum. Aures et nares mediocriter humidas habebat, et plerumque lacrymas effundebat: *Urinam tamen nullam neque excrementa ulla per inferiora*, multò minùs menses excernebat."[*] Few persons have given so circumstantial an account of cases of long continued abstinence as Hildanus; yet, however imperfect the history of such cases may be, it is scarcely possible that any particulars can be alluded to, without so important a one as the want of customary evacuations being included in the number. Thus, in the history of JANET YOUNG's astonishing abstinence, *written by a clergyman*, it is certified, that "she voided little or no excrements by stool; and, for the space of 16 *years*, she voided none but once in the year, which was always in the month of March, much like a small bit of roll-tobacco, or one globulet of sheep-dung."[†]

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* "An account of a woman in the shire of Ross, living without food or drink. By Dr Mackenzie, Physician at New Tarbet." Philosophical Transactions, abridg. Vol. lxvii. 1775.

† Edinburgh Medical Essays. Vol. vi. art. xliii.

‡ "De prodigiosa puellæ Colloniensis inedia." Cent. ii. obs. xl.

With regard to the proximate cause of this disease, inedia prodigiosa,[‖] I have nothing to offer. Thus far, I think, we may advance, that it is a disease of the whole system, and that the process of assimilation is suspended. The stomach being no longer an organ of digestion, food act upon it as a foreign body, and creates that excessive pain referred to the region of the stomach, on the same principle as a particle of water, or of any other foreign body, would excite violent irritation in the windpipe. Whatever the cessation of the functions of the chylopoetic viscera may depend on, I do not think that dissection will throw any material light on the subject; for it is not easy to conceive, how such a morbid state of the viscera can satisfactorily be explain-

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[*] "De prodigiosa inedia puellæ Morsiensis, historia singularis." Cent. v. obs. xxxiii. I am well aware, that a distinction must be made between the *observations* and the *opinions* of Hildanus; the evidence of the former being strongly contrasted with the extravagance of the latter. He held out, that these examples of abstinence were signs and miracles! by which *divine goodness* notified impending calamities, and stirred up sinners to repentance. After all this misplaced piety, he very much doubted if they were not *devilish illusions*. The vague account which *Monkeimius* sent last to Hildanus, is by no means capable of fixing limits to Eva Flegen's abstinence.

[†] "An extraordinary abstinence during fifty years; by the Rev. Mr Thomas Steill, Minister at Avendale."—Edinburgh Medical Essays, Art. xliv.

[‖] The *anorexia mirabilis* of Sauvage has an extensive signification, not only including the disease at present under review, but also diseases in general in which individuals have fasted long.

ed by a *visible* change of structure. The abdominal viscera no doubt are in a collapsed state; the diaphragm being in action, the sunken condition of the abdomen cannot be otherwise accounted for. If an opinion be formed of the nature of the organic derangement of the chylopoetic viscera, it must be compatible with the recovery of their functions. The pregnant woman, whose case of extraordinary abstinence is related by Hildanus, after having fasted six weeks, regained the functions of the stomach, and suffered, in the mean time, no interruption or disorder of the process of parturition.* Apollonia Schreiera completely recovered. " Vivit Schreiera illa in hunc usque diem 20 Oct. 1633, quo hæc scribo; robusta est et aliorum hominum more nutrimenta sumit."† The pathological idea, too, must be compatible with the *sudden* restoration of the functions of the chylopoetic viscera. Thus, Janet M'Leod, when she had not been able to swallow a particle of any thing, solid or liquid, from the year 1763, to the year 1765, all at once cried out for " a drink; and she drank at one draught a pint of water." In the case of the *Nun*, which Dr Currie has detailed on the authority of *Ramazzini*, the complaint, which caused an abstinence of 64 days, " went off suddenly, and the patient finally recovered."‖

It is the opinion of some, that Ann Moore is nourished by materials which the body absorbs from the atmosphere. Air, surely, is not aliment; and water, which is contained in the atmosphere, is rather a vehicle of aliment, than aliment itself. In health, when the functions of the system are in vigour, water will pass through the organs of assimilation, into the emunctories, without having undergone any important change. The oxygen which is consumed in the process of respiration cannot stand in the place of chyle, for the nourishment of the system. But it is questionable, whether a combination takes place between the oxygen of the atmospheric air, and the venous blood in the lungs, by respiration. Venous blood, it is said, differs only from arterial blood, in containing disengaged carbonaceous matter. The extreme branches of the pulmonary arteries expel this carbonaceous matter from the blood, and, in consequence, the venous blood of the whole body is transmitted from the pulmonary arteries into the pulmonary veins, *arterialized.* The presence of oxygen is of no further use in the process, than to combine with the *expelled* carbon, and to carry it off, as excrementitious, from the bronchial cells, in the form of carbonic acid. In this way it is explained, how the venous blood parts with its dark colour, acquires a scarlet hue, and repossesses its vital properties. I am ready to acknowledge the value of the work in which this theory is maintained, * and my own incompetency to proceed in a formal discussion of the subject. In the arterialization of the venous blood of the fœtus, in the maternal cells of the placenta, however, *no carbonic acid is produced.* I am, therefore, prepared to show, that the theory leads to this dilemma:—oxygen either is not necessary to the process by which venous blood is arterialized (a position which no theory ever yet maintained), or oxygen arterializes venous blood, by silently combining with it. I am disposed to join in opinion with Dr Bostock, and to admit the latter part of the dilemma. It remains unsettled whether *azote* enters into combination with the blood in circulation through the lungs. Fibrina, which is formed in the lungs, contains, indeed, a greater proportion of azote than chyle from which it proceeds. But this change of proportions may as well be effected by the abstraction of carbon from the chyle, as by the addition of azote to it. However this may be, chyle cannot be produced from azote in health, when the functions of assimilation are perfect; how then can chyle, and much less blood! arise from azote in disease, when the functions of assimilation are suspended?

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* Cent. iv. obs. xxx.

† Hildan. oper. p. 421. " In horum casuum plerisque, ciborum usus denique restitutus est." Haler. elem. physiol. ibid. It must be observed, however, that Haller is speaking of the termination of extraordinary abstinence in heterogeneous diseases, while I wish to confine my observations to one class of cases of abstinence, characterized by the excessive derangement of the stomach and œsophagus.

‖ Currie's Medical Reports, Vol. i. p. 314.

In cases of stricture of the œsophagus, when food can no longer be swallowed, clysters, containing nutritious substances have been administered as a means of subsistence. I have carefully examined those cases of inanition throughout, in which this practice has, with ingenuity, been adopted; but without being able to discover, by the progress of the cases under the practice, that the nutritious substances of the clysters were *converted*, or by such an unnatural route into the system, that they were *convertible* into the crassamentum of the blood, or any of the constituent parts thereof. I think there is good reason, and for a practical purpose too, to explain the action of the clysters given in dysphagia, on their relaxant or anodyne qualities, by which they diminish pain, and sooth irritation. On these principles, we can account for "the immediate and happy effects" which the clysters had in the case of the *Nun*, as observed by Ramazzini. At all events, patients in dysphagia live as long, and sometimes longer, without clysters, as they do when clysters have been daily administered, of the best selected nutritious substances. Mr Cruikshanks's patient, who had no clysters, survived two months, after being unable to swallow; although Dr Currie considered it as extraordinary that his patient, who had daily nutritious clysters, lived a month under the same circumstances.

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* Ellis's Inquiry.

There is still a source of nourishment assigned to the system which has not been noticed. It is maintained by physiologists, that the body is capable of feeding by the absorption of its own fat. Although the opinion is plausible, and very generally received as unquestionable, I cannot find that it has ever been clearly made out. The fat in general wastes, because the process of nutrition is impaired by disease. It is deposited by the absorbents into the thoracic duct, along, perhaps, with the serum of an anasarcous leg! and why not for the like purpose of excretion from the system? The opinion that fat, which wastes in disease, is changed into blood, is not only unfounded, but preposterous, when the patients, as often happens, are remarkably corpulent. If the many pounds of fat, which are lost by a week's illness, are not carried off by the emunctories as excrementitious, it will be allowed, that so much nourishment is not necessary for the support of the system; and that illness would be a cause of plethora, exactly in a ratio corresponding with the severity of the complaint, and the corpulency of the patient. But it has been known, from time immemorial, that in disease the system can endure abstinence to a greater extent than in health; the necessity of this obviously is, because the functions of assimilation are among the "plures functiones læsæ."

Burton-upon-Trent, May 12th, 1809.

XII.

An Apology for the Cutting-Gorget. By W. Simmons, Surgeon at Manchester.

The ingenious Mr Lawrence, of London, hath favoured the profession with a few "observations on lithotomy," in the last Number of your Journal, the scope of which is, to supersede the use of the *cutting-gorget* in that operation, and substitute, in its stead, the common scalpel, with a slight alteration. In order to strengthen his recommendation, he hath subjoined a case, which case, however, if not directly militating against his own doctrine, the advocates of the gorget may be inclined to think, is, at least, not greatly in favour of it. But, as the case is a solitary one, and the termination of it was fatal, I shall excuse myself from offering any further conjecture concerning it.

In the operation of lithotomy, I have always employed the *cutting-gorget*, and with so much success, as to render me satisfied with it; though far from being inimical to improvement, where the change is really such, and founded upon just principles.

In the introductory part of the observations before me, the author has taken occasion to remark on the uncommon success of Mr Cheselden, as a lithotomist; and not wishing to deprive our countryman of any applause he may be justly entitled to, most willingly do I accord with this opinion. In justice to others, however, let it be observed, that dexterous as Mr Cheselden undoubtedly was in performing this operation, he was no less fortunate to meet with so great a number of patients labouring of the stone, who were at the same time free from any disease of the kidneys and bladder, which might hurry on to a fatal termination; or, whose habit did not predispose to inflammation, or tetanic affection, from which, even where the operation had been ably executed, and the patient was apparently out of danger from it, I have had occasion to witness a fatal event.

For effecting the division of the prostate gland, and neck of the bladder, Mr Cheselden employed the common scalpel; which, in process of time, yielded to the cutting-gorget, an instrument invented by Sir Cæsar Hawkins.

To exalt either of these gentlemen at the expense of the other, is far from my intention; both were eminent in their day, and both are now no more; so that praise, or censure, is alike indifferent to them. But it is for the interest of science, that the question now agitated again, should be dispassionately canvassed; and, taking success for the criterion, I hope presently to show, that whatever the merit of the scalpel in lithotomy may be, so far is it from being unfortunate that English surgeons did generally adopt the cutting-gorget, that it is still a valuable contrivance, and worthy of being retained in surgical practice. But to proceed.

The reason maintained by the author for his preference of the scalpel to the gorget, is scarcely consistent with his usual correctness. To suppose that Sir Cæsar Hawkins was ignorant of the anatomical structure of the parts concerned in the operation of lithotomy, would be entirely gratuitous. Nor is there more reason for suspecting the anatomical acquirements of many other surgeons, who have pursued his method of operating. Disclaiming, therefore, this mode of defence, I shall transcribe the passage on this subject for another purpose. "Sir C. Hawkins then (says the author, p. 138) may enjoy all the credit of introducing into one of the most difficult, and dangerous operations of surgery, an instrument which can be employed by any individual, of any profession, or trade, who has the simple faculty of combining the motions of his two hands, so as to keep the gorget and staff together, as well as by the most skilful anatomist, and most experienced surgeon." With all proper deference to the author, this is, in my opinion, the highest commendation that ever was bestowed upon any surgical instrument; and how well it is merited by the gorget, my own experience of its use, for nearly twenty years, will bear irrefragable proof.—Yet, in stating my sentiments thus frankly, I hope not to be understood, as meaning to depreciate the importance of anatomical researches, or of dissecting-room surgery; nor am I insensible of the value of manual dexterity. But, to have rendered "one of the most difficult and dangerous operations of surgery" so simple and easy of execution, as in the above quotation this author has described it to be, is so far from being a demerit, and on that account to be rejected, that it is a point of excellence, rarely, if ever attained, and ought to be aimed at in every other difficult and dangerous operation.

The author next descends from general to particular objections to the instrument in question; and accordingly he observes (p. 138), that Hawkins's gorget is "too narrow at its cutting part;" and then he also adds, that "subsequent improvements in the form of the instrument have somewhat obviated this objection; but dissection still shows us that the incision is not sufficiently extensive." The generality of lithotomists will, I believe, agree with the author in the former part of this statement, though it should be recollected that the bladder is susceptible of considerable dilatation; but, with regard to the latter, I beg leave to inform him, that, in at least twenty different instances in which I have performed the operation of lithotomy upon the *living* subject, and all with the cutting-gorget, I have not had occasion to enlarge the wound into the bladder in one *single* instance; nor have any of the accidents to which he has adverted supervened. Whence I am warranted in concluding, that, in the instances mentioned, the fault lay, not in the instrument, but with the operator, who, if unable to manage the gorget, an instrument (he thinks) that requires neither a *knowledge of anatomy*, nor *manual dexterity* to use it, would hardly have been more successful with the scalpel; the chief boast of which is, if I rightly apprehend the question, that it requires a larger share of both these qualifications than will fall to the lot of the generality of surgeons.

The directions for making the first incision, next engage the author's attention; and to these I shall take only one exception, which is, that provided the staff can be felt in perinæo, at the spot denoting its curvature into the bladder, the external wound will be made with more precision directly over that part, and without any possible inconvenience. In a fat subject, indeed, like the one whose case the author has given, it was clearly impracticable to feel the staff in its course so near to the bladder; but such an instance of exception will not constitute a valid objection to this rule in suitable cases, inasmuch as a sure though imperfect guide is better than none at all, and especially as the next part of the process will require that the knife should be made to pass through the membranous portion of the urethra into the groove of the staff.

The supposed similitude of the operation with the gorget of Hawkins, and by the *apparatus major*, will now invite discussion; and here, again, I think, the author has failed to establish his point. For, in the *apparatus major*, "the incision is made in the urethra only," (Heister, p. 159.); and the extensive division of the urethra, still practised by some surgeons in the lateral operation adverted to by Mr Lawrence, has long been discontinued in provincial practice within the range of my observation. Before the section of the prostate gland, and neck of the bladder, constituted a part of the operation, this mode of practice might admit of extenuation; but, since that period, certainly no good argument can be offered in its defence. Heister tells us, that in the *apparatus major*, the intention was to reduce the urethra of the male as near as possible to the condition of that of the female. His words are, (p. 115, E. 3.), "the urethra is to be divided, and the neck of the bladder left entire:" And again, (p. 111.), "so that there remains but a short part of the urethra entire between the lips of the wound and the bladder—like as in women; which part being sufficiently dilated with proper instruments, the stone may be extracted by convenient hooks, or pliers, out of the bladder." We further learn, from the same respectable authority, that the instruments which were employed for the purpose of dilatation, were a *male* and *female* conductor, so called from their peculiarity of form, and from serving to conduct the forceps into the bladder, and also a *dilatator*, properly so called, because it serves no other purpose than "to dilate the wound made in lithotomy."

These extracts are sufficient to prove the difference subsisting between the *apparatus major* and the operation with the gorget of Hawkins, both in the parts divided, and in the number of instruments employed. And, if the incision through the prostate gland and neck of the bladder be made with the gorget of Hunter or of Cruikshank, which I have used, it cannot be a *misnomer* to designate the operation *lateral*, though performed with the cutting-gorget; for the division of the parts will, in the strictest sense, correspond to the operation by the scalpel, and also provide an aperture through which a stone of a considerable magnitude will pass, without either contusion or laceration of the parts. Such a section of the bladder is at least as considerable in extent as the one made by Mr Cheselden; and we are told, that " the largest stone will easily pass through Mr Cheselden's wound."—Thomson's Obs. p. 44. And of Mr Le Dran, although the blade of his *bistoury* was only " half an inch broad, and about three quarters of an inch long," yet " his operation has always proved successful, even in the extraction of the largest stones." Ibid. p. 74.

As my object is to *defend* the use of the *cutting-gorget*, I shall not dwell upon several other points of inferior moment in the observations before me, but hasten to express my acquiescence in the opinion, that " the best operators always use the most simple means." Yet, in acceding to this general proposition, I could wish to be understood as reserving to myself the opportunity of its fit application; because the fault, opposed to *complexity*, is that of simplifying too much; and of this I fear there is danger in the present case.

According to Mr Lawrence, the apparatus of lithotomy should consist of no more than three instruments, namely, " a knife, staff, and forceps;" and, it must be confessed, that this list is sufficiently specious, did it provide for every emergency; unfortunately, however, this is not the case.

In the apparatus of Mr Cheselden, five are enumerated:—1. A staff. 2. An incision-knife. 3. A gorgeret. 4. A pair of forceps. 5. A crooked needle, carrying a waxed thread.—Thomson, Obs. p. 44. Substituting the tenaculum for the needle; attached as I am to a successful method of practice, I will likewise, in gratitude, take the cutting-gorget for the blunt one. The enumeration will then be complete; and if the name of the gorget be still objected to, let me ask, what is it after all but a knife?

That the blunders which have been ascribed to the cutting-gorget do not necessarily belong to the instrument itself, I have before stated; and I will now endeavour to explain, though not difficult, that it is less easy of application than this author has asserted. On this part of my subject, then, I shall be expected to go a little more into detail.

That the external incision should be bold and free, is the prevailing opinion among lithotomists, not only for the reasons which this author has assigned, but also to secure any artery that might require to be taken up, the necessity of which will sometimes occur, both from the enlarged diameter and irregular distribution of the arteries in some subjects, however accurately the parts might have been divided in the operation. It will be seen in the observations edited by Dr Thomson, p. 35, 51, 67, and 69, that hæmorrhagy was a source of great apprehension to Mr Cheselden; and that he, in conclusion, strongly reprehends the conduct of those whose practice it was not to secure the divided arteries by ligature. His words are, (p. 69.) "Now, if Jacques, or others, who of late have been said to have performed this operation, whether by design or chance, did not take care to secure the blood-vessels, which, as yet, has not been supposed, whatever their dexterity in operating might be, their success at least can be no secret; for many of their children, and most of their men-patients, must have bled to death, as, he tells us, one of his own patients did, where the ligature had not been applied, "by an artery into the bladder." But to continue the description of the operation.

Having thus exposed the urethra, the next object is to make an opening through the membranous portion of it; and this I accomplish, by placing the fore-finger of my left hand on the outer extremity of the prostate gland, bringing the back of the knife in contact with my finger, which thus serves for a guide. The point of the knife is then plunged through the membrane into the groove of the staff, and the incision extended from within outward, that is, in the direction of the bulb of the urethra, as far as may be thought fit, for the easy introduction of the beak of the gorget. Thus far every thing is plain and simple; the urethra is reduced nearly to the state of the female urethra, and the passage to the bladder made almost direct. And here I relinquish the scalpel altogether, and finish the incision with the *cutting-gorget.*

Having therefore ascertained that the beak of the gorget is in *naked* contact with the groove of the staff, I push the gorget cautiously forward towards the bladder, bearing the point "hard against the staff," "observing all the while that they do not separate," and very gently depressing the handle as the instrument advances, when the entire division of the prostate gland and destined portion of the bladder is soon unequivocally announced, by the full flow of urine. This, then, is executed at one *single* incision, which, as before observed, I have never found it necessary to enlarge.

But, perhaps, it may be objected to this method of operating, that however successful with these precautions in a distended state of the bladder, in a collapsed state, or when the patient had voided his urine a short time previously, the operation is rendered doubly hazardous. This objection, however, is negatived by the result of my own experience. Always it has certainly been my wish to have the bladder well distended with urine at the time of the operation, both because a tense state admits of a more easy and clean incision than a collapsed one, and because the fundus of the bladder is then effectually removed beyond the reach of the gorget, and its sides are prevented from sinking into folds. Repeatedly, however, these advantages have been denied me, and I have had to operate where the urine had been immediately before parted with, and the bladder was consequently in a state of collapse.

Thus situated, I have proceeded through the different steps of the operation with even more than usual caution; and as soon as the advancement of the gorget, and dribbling of urine, have indicated the complete division of the prostate and bladder, I pause, and then by a slight elevation of the handle of the instrument, and depression of its beak, at once disengage it from the groove of the staff.

This simple movement will give security to this the most hazardous part of the operation. The concavity of the gorget will then give ready admission of the finger into the bladder, in order to ascertain the position, and magnitude of the stone, and serve as a conductor to the forceps;—and the stone may then be extracted in the usual way. And if, from the number of calculi, the repeated introduction of the forceps should be found necessary, the index of the left hand will serve for a conductor, and supersede the employment of the blunt-gorget, an instrument that I had considered as entirely obsolete.

In endeavouring to explode the cutting-gorget from practice, and revive the use of the scalpel, however modified from the common form, this author has very properly left the power of selection to the operator himself. Availing myself, therefore, of this liberal concession, and of the above explanation of the grounds of my own choice, I hope hereafter to escape obloquy for preferring a knife of the *figure* of the gorget: and if, at any future period, it should be judged expedient to enlarge the wound into the bladder, I will compromise the matter, by making the enlargement with the scalpel.

As success is the aim of us all, where this has been repeatedly, and expeditiously attained, surely, as a rule of prudence, we ought to be slow to change our means. In extracting a stone from the bladder, I have seldom been more than a few minutes, although I have always placed *celerity* secondary to *safety;* having ever present to my mind the well known adage of *sat cito si sat bene,* without a due regard to the import of which, from an affectation of dexterity, the lives of our patients will be frequently exposed to unnecessary hazard. However, these remarks might perhaps have been spared; because, I believe, the operation will, in general, be fully as soon executed by the cutting-gorget, as by the scalpel.

Such then is the *apology,* which I have to offer, for continuing to use the *cutting-gorget* in the operation of lithotomy. Yet, open to conviction, if, by a still more ample experience, I should alter my opinion in favour of the common knife, I shall then without hesitation adopt it. And I have ventured to graft my *apology* upon the observations of Mr Lawrence; because, though I may differ from him in opinion on this occasion, yet, from the perusal of his other works, I have derived both pleasure and improvement.

Manchester, 20*th May,* 1809.

XIII.

Case of very Copious Hæmorrhage from the Urethra, in consequence of the Application of a Bougie, armed with the Argentum Nitratum, to a Stricture. By Mr SAMUEL COOPER.

MOST practitioners in surgery, who are in the habit of treating strictures on the plan recommended by Mr Home, must have had repeated occasion to observe a troublesome degree of bleeding, after applying the caustic to the disease. Mr Home, himself, has related several such instances; and I have in my recollection a few which have fallen under my own observation. The cases, which have been published by the above gentleman, only interrupted the progress of the treatment for a short time; about a week afterwards, the use of the armed bougie was generally resumed, and a cure ultimately accomplished.

Of late, however, I have met with an example, in which the bleeding was so profuse, and productive of such debility, that it would be the height of impudence ever to subject this particular patient again to another hæmorrhage of the same kind.

A medical gentleman, from the West Indies, consulted me, about a fortnight ago, on account of a discharge from the urethra, and a fluctuating, circumscribed, prominent, and painful swelling in the perinæum. As the feel of the tumor clearly indicated the presence of a fluid, I made an opening with a lancet, and gave vent to about a table-spoonful of purulent matter, apparently quite unmixed with urine. A linseed poultice, and a T bandage, were applied.

At the next visit, I learnt, that at the time of making water, a part of the urine was discharged from the wound in the perinæum; and, on attempting to introduce a flexible gum catheter into the bladder, an obstruction was discovered in the urethra, about six inches from the orifice in the glans penis.

The following morning, a trial was made to introduce a small-sized bougie through the stricture, but this could not be done; and, the day afterwards, it was determined to apply an armed bougie, which was performed in the manner directed by Mr Home. Some little degree of bleeding from the passage ensued, and the pain was much less than the gentleman had apprehended.

After waiting one more day, the caustic was again passed down to the stricture, kept applied about a minute, and then withdrawn. A complete stream of blood followed the bougie. I waited some little time to see whether the hæmorrhage would stop of itself; and finding that it still continued in a very copious manner, I dipped a large towel in cold water, and put it over the penis and perinæum. Some abatement in the bleeding now took place, and a clot of blood stopping up the mouth of the urethra, I was induced to hope the hæmorrhage would soon cease altogether.

In this expectation, however, I was greatly disappointed; for, on my return home in the afternoon, I found a letter from one of my patient's relations, desiring my instant attendance, as he had almost bled to death. The note having been brought to my house when I was out, Mr Cline was sent for, who appeased, in a very material degree, the fears which had disturbed both the patient and his friends. When I entered the room, about four o'clock in the afternoon, I found several towels, all completely soaked in blood, a great part of the bedding wet through with the same, and a large bason, such as is used for washing one's hands, nearly full of coagulated blood. Were I to guess the quantity lost, I should certainly not estimate it at less than five pints. The gentleman was so reduced, that the mere exertion of turning in bed would make him faint; and the great loss of blood he had sustained, considered with his general appearance, made me seriously apprehensive of the consequences.

The bleeding began about a quarter before eleven in the forenoon, and continued, more or less, till eight in the evening.

The case seems to me worthy of being recorded, on account of its exhibiting an example, in which the quantity of blood lost was unusually great, and in which the effects of the hæmorrhage on the constitution were such, as to forbid exposing the patient again to the same accident, lest it should bring on fatal consequences. The gentleman's health has been already so much reduced, that both Mr Cline and Mr Abernethy, who have been consulted, recommend no attempt to be made to remove the stricture, till the state of the constitution has been improved.

Having always been an advocate for Mr Home's plan of treating strictures, no one can suspect me of publishing this case with a view of bringing the method into disrepute. I still give a general preference to the employment of armed bougies, because they seem to me most efficacious; and the above case is the only one, in which the fear of hæmorrhage has ever induced me to abandon this mode of treatment.

Golden Square, London, May 19, 1809.

XIV.

Hints to Young Practitioners, and Observations for the Benefit of those whom they may concern.

People, in general, are very cautious how they trust a gold watch or a repeater in the hands of an inferior or country workman; but they do not scruple to trust that simple machine, the human body, to any one who puts up a board to say, "All disorders rectified, and exhausted constitutions neatly mended here."

If you are disposed to study your profession, say at once, that all medical books are not worth reading, quote Sydenham's recommendation of Don Quixote, and set up as a matter-of-fact man who abhors all theories: for 'tis not with medicine as with music, in which nobody thinks of sending for a person to tune an instrument when he is known to be perfectly ignorant of the science.

If you should happen to mistake the nature of a disease, and prescribe the wrong medicine, be sure never confess it: if your patient dies, all is safe; for, as the old proverb says, "*dead men tell no tales.*"

If you determine to practise physic in London, enter your name on the boards of one of the English universities, fiddle and drink tea there for nine terms, attend no lectures, go backwards and forwards for seven years, and then you are legally qualified for becoming a Fellow of the Royal College of Physicians.

If any one in a mixed company tells you the history of the qualms in his stomach, or recounts the paroxysms of pain in his head, and asks you what he should take, put on a grave air, and tell him *to take advice.*

When you meet the friends of a patient that you had attended a long time before, without being able to render any service, make many inquiries after the complaint; conjecture that it may have undergone some change, and say you will call again as a friend,—but do not refuse the fee when it is offered, because that would imply your prescription is worth nothing.

Do something that will make you conspicuous; for when a physician becomes the subject of the town-talk, he may conclude his business is more than half done, as it is well known no empiric ever reaches any degree of wealth and reputation till after he has been fairly convicted of homicide.

Write a book with a taking title: Describe your own case at full length, and hint that you have found out a remedy, after having devoted your whole life to one particular subject. Quote as many cases as the alphabet will furnish initials for.

Write monthly reports of diseases in a newspaper or magazine; swell out the list according to your own fancy; and take care to enforce the necessity of being consulted early. Intersperse your observations with some extraordinary cases which occurred in your private practice; no matter whether you forge them or not, as long as they are calculated to impose upon silly mothers and foolish hypochondriacs, who deal in domestic medicine, and are easily duped by familiar instances of penetration and discernment, especially when recorded in pompous language.

Let yourself out to a bookseller as a manufacturer of books, or as a reviewer, because it is easier to pull a good book to pieces than to write a bad one, and you may expose your ignorance without exposing your name.

Get introduced into a nobleman's family, as travelling-physician, or tutor, or as both; be very full of flattery and fine speeches to my lady; be attentive to the lap-dog, the canary-bird, and the children, and keep on good terms with the waiting-woman; for you may be appointed physician to the family, and have always a place where you can get a dinner when his Lordship is in town.

Make love to one of the dependents and poor relations, and marry a lady of quality if possible; no matter that she is a bastard, or as ugly as sin; if you can show some ancient quarters in your armorial bearings, you must be a fit person to understand the constitution of the nobility.

Hire a chariot, and put a smart livery upon a bill-sticker, to ride behind you during the winter half-year; for nobody in their senses, in London, will send for a walking-physician, who wanders about from street to street, like a pedlar, or a Jew selling remnants of advice by retail. A chariot with patent steps is a piece of furniture now as necessary for the stock in trade, as a stage and a merry-andrew were formerly. It is not only for the convenience of saving a man from sinking under the fatigue of extensive practice, but as a sign-post to get customers, and as the high-road to consequence.

Leave orders, at home, to be sent for when you go abroad; be called out of church; alarm the neighbourhood, by having loud knocking at your door in the night; receive notes and messages in company, and public places, especially when any of your brother-doctors are there, because you will make yourself of comparative importance, and lead the people to think you are the most preferable of physicians.

Assume a grave and philosophic air in company, and do not talk much; throw out hints and short sentences, ask questions, but never enter upon any discussion, because argument spoils conversation, and may spoil an acquired character of silent sense. Many a young man has suffered from indulging a frank and ingenuous mode of speaking, whilst a certain sullen pride and contempt for mankind, has been esteemed the greatest wisdom, though in reality it is the most egregious folly.

When you are sent for, say you will call as soon as you can; wait an hour, and plead numerous engagements; for none but dogs will come at the first whistle, and you may enhance the obligation, by sometimes going immediately.

Cultivate the friendship of an apothecary, his partner and his apprentice; for these two latter are often sent for in absence of the principal; they pretend to be alarmed and embarrassed, and can often persuade the patient to call in farther advice.

Never inform the apothecary of the reasons for your advice and prescriptions; for what celebrated painter ever told the grind-er of his colours, how he mixes them, and lays them on the canvass?

Enter into partnership with some chemist and druggist. Give advice *gratis* to the poor, at your own house, for two hours in a morning. Send all your prescriptions to him, because nobody else can undersand them; and at the year's end divide the profit. Do not omit any opportunity of crying out against the villany of apothecaries, and the ordinary dispensers of medicines.

When you are called to a great lady, do not forget to fee the nurse, to flirt with the waiting-woman, and to flatter the apothecary, particularly if he is in full practice; for the communicative disposition of these personages will soon circulate your name.

When your opinion is asked respecting the probable termination of a case, put on all the solemnity of feature and face which you are master of, and give a prognosis that will suit any purpose, *like the honest miller*, who knows how to grind whichever way the wind blows.

If you do not succeed in one place, remove to another, or absent yourself for some time, and you will be the more highly rated at your return; for though people cannot judge of the growth of a trained tree, but by remembering exactly how far it covered the wall, and comparing that with its present condition, yet in the practice of physic every body believes you have only to live and you must grow wiser; and a stage-coach is considered in the same light for a school of instruction as the wards of an hospital.

If you have tried other professions in vain, set up as a physician; give it out that you took your degree at a foreign university, rather for amusement than with a view to practise, but that you are well qualified to practise, and nobody has any right to question your assertion.

In the summer-season, when the town migrates into the country, or to watering-places, repair to Tunbridge or Cheltenham, discover a new spring, and write an essay to prove, by chemical analysis, how well fitted the water is for purifying the blood, and how dangerous to drink it without first asking medical leave.

On your first arrival at a watering-place, step into an apothecary's shop, call for pen, ink, and paper, and write a prescription, and let the articles be so unusual, and the Latin directions so long, that the shopman is obliged to call his master, who very civilly asks you how you would have the medicine made up, in English. He invites you into the back-parlour in the mean time, and enters into conversation about the waters of the place, which you must extol; next, praise mineral waters in general; and then make digressions into other medical topics, and flatter the prejudices of the old school. He will form a vast idea of your wisdom, and, if he has quarrelled with the other physicians, you may rely upon his recommendation.

Although the place where you go to settle should be crowded with medical practitioners, do not despair of success; for such is the caprice of the world in general, that whatever bears the appearance of novelty, captivates the imagination, especially of sick people, and gets the better of reason and common sense.

Endeavour to establish an hospital or a dispensary, by the voluntary subscription of your friends; for many men have wriggled themselves into notice by professions of charity, and have qualified themselves for genteel practice, by sharpening their wits upon the carcases of the poor.

"Knock down the reputation of doctors, and you shall infallibly raise your own; so it be with wit, no matter with how little justice: *A criticism between just and unjust is nothing but the needle-work of idle brains.* It is always good to be in a road of thriving; observe how opulent they become, and how these have attained to the character of monstrous wits and prodigious geniuses, who build on such prudential and thrifty foundations. You may confidently censure and prefer yourself to those whose approved writings you are not capable to interpret, and though you have not so much real learning *as would cover a sixpence in the bottom of a bason*, or as to distinguish betwixt axunge and exungulate. If the doctor be older than you, whisper he is superannuated; if younger, say he is inexperienced. It is not so artful for a man to have merit, as it is to know how to bring himself into play. There be many persons that cannot play well, yet can nimbly pack the cards."

Be bold, be impudent, be reserved, and be vain. Thus, you will become the oracle of ninety-nine people in a hundred, and the envy of nine out of ten among your brethren.

" ——— *Abite pudor, verumque fidesque;*
In vestrum subeantque locum fraudesque, dolique,
Insidiæque, et vis, et amor sceleratus habendi."

PART II.

CRITICAL ANALYSIS.

I.

Observations on some of the most frequent and important Diseases of the Heart; on Aneurism of the Thoracic Aorta; on Preternatural Pulsation in the Epigastric Region; and on the unusual Origin and Distribution of some of the large Arteries of the Human Body. Illustrated by Cases. By ALLAN BURNS, Member of the Royal College of Surgeons, London; and Lecturer on Anatomy and Surgery, Glasgow. Edinburgh, 1809, 8vo. Pages, 322.

THE structure and functions of the heart, and its natural modes of action, by which the circulation is carried on in health, are now so well understood, that it should seem, at first sight, no very difficult matter, to appreciate the effects of the varieties of morbid structure which have been observed, and so to connect the external symptoms with the diseased states of this important organ, that the former should afford to the physician tolerably certain indications of the presence of the latter.

Mechanical, however, as the actions of the heart appear to be, the effects of the morbid conditions to which it is subjected, are often more conspicuous in distant parts of the system than in the organ itself, so that the symptoms become so complicated and embarrassing, that the true seat of disease has in many cases not even been suspected. Indeed, so little familiar is this important subject to the minds of the generality of practitioners, that even when the deranged and irregular actions of the heart itself, and of the functions more immediately dependent, can leave no doubt as to the seat of the disease, the case is very often misunderstood, or, at most, the consultation ends in the general conclusion, that there is organic disease of the heart, but of what kind not even a rational conjecture is hazarded. That so little use has been made of the numerous facts connected with the diseases of the heart, which abound in the records of medicine, arises, perhaps, from the subject not having been fairly brought into view, and from the different cases not having been sufficiently compared and classed. The subject is both difficult and important; but the merit of Mr Burns is so much the greater, who, in the volume now before us, has presented us with an able and judicious analysis, which cannot fail to facilitate the study, and advance the progress of this branch of pathology.

The diseases of the heart, it is observed by Mr Burns, may be divided into three classes—

The first class containing the sympathetic affections of the heart, or those diseases which are dependent on the consent which this organ has with other parts of the body;—the second, those affections which are brought on by such malconformations of the heart, as give rise to a mixture of the venous with the arterial blood;—and the third class, those diseases induced by some organic affection of the heart, which mechanically impairs the circulation, but does not necessarily alter the composition or properties of the blood.

No notice is taken of the diseases of the first class, our author's plan embracing only the most frequent and important diseases of the other two.

The diseases of the second class depend generally on such a malconformation of the heart, as permits a part of the venous blood, which should have previously been circulated through the lungs, to pass directly and unchanged into the aortic system. One of the striking phenomena which attend this state of the circulation, the blue and livid colour of the skin, has conferred upon the subjects of such malconformation the name of Pueri Cærulei. Many such cases have been described.

The symptoms which characterize those alarming, and at last fatal paroxysms, to which these unfortunate subjects are liable, are all referable to the circulation of a large portion of venous blood occasionally accumulated in the aortic system;—coldness, and livid colour of the skin,—anxious, oppressed, and struggling breathing,—torpor and debility,—suffocation and death. Or, if the sufferer do recover, the violent struggling and agitation subside, the respiration seems impeded, and from this state of quiescence he sooner or later gradually revives. It has been observed, that when the patient is apparently just expiring, he is in reality bettering his condition. The explanation of this process, through which the patient seems to recover, proposed by Mr J. Bell, is implicitly adopted by Mr Burns.

> "The common respiration will not suffice; the venous blood is gaining on the arterial system; therefore, the lungs must be as completely emptied as possible; the air is accordingly forcibly expelled,

the child sinks exhausted, soon he breathes again, but expires with equal exertion as formerly. This struggle continues for a length of time; at last respiration seems suspended; during this suspension, the surface gradually loses its livid colour, and becomes more of the pale livid hue. Then the patient fetches a deep sigh, recovery begins and goes on apace, till at length he is as well as circumstances will permit." "The child is expelling portion after portion of the contaminated air from the lungs, till finally he succeeds in introducing such a quantity of pure air, as will in some measure restore the balance of arterial and venous blood."

We must confess that we are far from being satisfied with this statement of the case. For although the symptoms of the paroxysm depend on the presence of venous blood in the arterial system, this state, in the cases under consideration, does not originate from any imperfect action of the lungs, or from the presence of contaminated air, but from the direct passage of such a quantity of unrespired venous blood, from the right to the left side of the heart, as oppresses the aortic circulation, induces torpor and debility of the muscular system, and displays its presence by the deep purple colour of the skin. While this torrent of venous blood is passing directly from right to left, the symptoms must continue, and cannot surely be obviated by the presence of the purest air which can be inspired by the lungs, inasmuch as the venous blood which is oppressing the aortic system has not circulated through the pulmonary. We can imagine but one possible compensation which the lungs can make in such a case, viz. that their function be augmented, so that the portion of blood which is circulated through them be more highly arterialized than it is in the ordinary course of things. Let us suppose, for example, that of all the blood which is transmitted from the cava to the right heart, one half is passing directly to the left heart and aorta, and that the other half is circulating through the lungs. If this portion undergo no more than the usual changes of respiration before it mixes with the venous blood, sent directly to the left heart, then it is plain how all the symptoms of strangulation are produced, for the circulating mass is but half arterialized. If, on the contrary, as much air were decomposed at each respiration by the portion of blood which does pass through the lungs, as would have been decomposed had the whole mass performed the pulmonary circulation, then, notwithstanding the portion of unchanged blood, which is passing directly from the venous to the arterial system, the functions of life might yet continue undisturbed. But that this compensation does not take place, is evident, from the livid colour of the skin, and the other symptoms of the circulation of venous, or imperfectly changed blood. We cannot, therefore, perceive how the air present in the lungs should become more than usually contaminated,—what benefit could result with this view from its forcible and total expulsion,—nor how the introduction of the purest air could in any measure restore the balance of arterial and venous blood; a balance which has not been destroyed by any incapacity of the lungs, or any deterioration of the air, but by the direct transmission of an overpowering dose of unchanged blood from the venous to the arterial system. The lungs, in such cases of malconformation, are but secondarily affected, and if their function at last fail, we would say, that it fails here, not for want of air, but for want of fuel; the due quantity of blood is not sent to them for decomposition.

In these cases of malconformation, those dreadful paroxysms of suffering and danger are occasioned commonly by some sudden agitation of mind, or exertion of body, some cause which excites and disturbs the harmony of the circulation; a harmony which can only be restored by the most perfect rest, which seems to be restored by that state of alarming quiescence which precedes recovery. Let it be recollected, that although the ductus arteriosus and foramen ovale remain open, the circulation in the interval of these paroxysms goes quietly on, and the functions of life are but little disturbed. The simultaneous action of the right and left auricle in the one case, and of the two ventricles in the other, prevents, we apprehend, in the usual course of things, much of the blood to pass directly through these openings, from the venous to the arterial system; the currents of blood are here opposed, and flow more easily, each in its proper channel; the venous blood from the right auricle to the right ventricle, and through the pulmonary artery, rather than through the open foramen ovale, and ductus arteriosus, where it must be equally impelled by the opposing jet of arterial blood. But, from certain exciting causes, this harmony is destroyed, and a gush of venous blood flows at once upon the arterial system. All then is agitation and disorder; and the lungs, which, like all other parts of the body, are *nourished* by pure arterial blood, feel the disorder, and share first the general agitation, then the torpor of the system. The feelings of anxiety, of suffocation and strangulation, are reflex; they do not here proceed from any incapacity or obstruction of the lungs, nor from privation of pure atmospheric air. Were this the case, the period of quiescence, and the suspension of respiration, might accelerate the last and fatal expiration, but could not, we think, contribute to recovery. But during this suspension, and that quiescence, the harmony of the circulation is probably restored, and then the lungs resume their actions: The lungs now circulate venous blood, the aortic system arterial blood;

and each, therefore, has it proper stimulus, of which it was formerly, in a great measure at least, deprived.

We are sensible that, imperfect as this view is, it is not fully applicable to all the cases of malconformation of the heart. But our objections to the explanations of Mr J. Bell, and our author, appear, nevertheless, generally applicable to every case, one only excepted, and which, by the by, bears no sort of resemblance to the other cases; for in it there is no direct communication between the two sides of the heart.

The different examples of malconformation of the heart are arranged by our author under the following species:—

1st, Where the aorta originates equally from the right and left ventricle.

2d, Where the foramen ovale and ductus arteriosus remain open.

3d, Where the ductus arteriosus is obliterated, but the foramen ovale remains pervious; or a preternatural opening leads from the one ventricle to the other.

4th, Where the pulmonary artery is impervious at its origin, but still receives a small portion of blood by a retrograde action of the ductus arteriosus.

5th, Where the heart merely consists of two cavities, an auricle and ventricle, and where from the latter a vessel originates, which afterwards divides into two branches, one to the lungs, the other to the body.

6th, Where the mitral valve is malconformed, leaving merely a small opening, leading from the left auricle into the ventricle.

The first species has been met with by Sandifort, and by Dr Nevin; the second and third are of more frequent occurrence. The effect of all three is sufficiently and generally understood.

Where the foramen ovale alone remains open, it is commonly complicated with disproportionate size of the cavities of the heart; and it is observed by Mr Burns, that this occurrence is not uncommonly the cause of asthma.

The fourth species is very rare. An example is described by Dr Hunter. The child lived only 13 days; nor does it seem that such a malconformation is compatible with longer life.

In the fifth species, the heart is single, and resembles that of the amphibiæ. This remarkable lusus occurred to Mr Wilson. The heart was imbedded in the substance of the liver; the child survived seven days. The sixth species, of which Mr Burns has himself met with three examples, is essentially different from all the others; for in it there is no communication preserved between the right and left side of the heart, and none of the venous blood passes directly into the aorta. But from the imperfection of the valve, in this last species, the blood cannot pass freely from the left auricle into the ventricle, and therefore the circulation through the lungs must be impeded; so that, on using exertion, or otherwise hurrying the circulation, the blood must in some degree accumulate in the lungs, and, by compressing the bronchial cells, give rise to symptoms indicative of the presence of imperfectly arterialized blood. Such subjects generally die dropsical. They are liable also to fits of difficult respiration, irregular action of the heart, and hæmorrhage from the lungs. In two of the cases observed by our author, the right side of the heart was found considerably enlarged.

The third class of diseases of the heart, according to our author's arrangement, consists of those induced by some organic affection of the heart, which mechanically impairs the circulation, but does not necessarily alter the composition or properties of the blood. And, under this head, we are presented with many sensible and instructive observations, on uniform enlargement, and on dilatation of the heart; on partial dilatation of the heart; chronic inflammation of the heart; diminution of the size of the heart; on the consequences resulting from change in the structure of the substance of the heart; diseases of the coronary arteries, and syncope anginosa; on changed structure of the valves of the heart, and large arteries; and on the formation of polypi in the heart.

The increased size of the heart, observed in some dissections, may proceed from uniform enlargement of its substance, or from mere dilatation, without any addition to its solid structure. These conditions give rise to very different symptoms, which have not always been sufficiently discriminated.

Where the heart is enlarged by an addition of solid muscular substance, the balance between this organ and the arteries is destroyed. "There is a confusion and a struggling in the chest; there is also an inexpressible anxiety and inquietude about the heart; and, as one would expect, there is a weak, irregular, intermitting, fluttering pulse; or, as in a case of this disease recorded by Valsalva, the pulse is rapid and corded." "But," continues our author; "I cannot conceive what has induced Mr Bell, Dr Ferriar, and Portal, to lay these down as the symptoms attendant on dilatation of the cavities of the heart. They are the symptoms which belong to enlargement of the solid substance of this organ, or to dilatation of the cavities, combined with chronic inflammation, and adhesion of the pericardium; conditions which cannot be too carefully distinguished from the other."

In simple uniform dilatations of the cavities of the heart, Mr Burns has never seen such symptoms as those described by Dr Ferriar. In genuine unmixed cases of dilatation, the pulse has been found always full, slow, and soft, even so low, in one case, as eleven beats in the minute; the heart contracting sluggishly and equally. There is oppression in the chest, and a sense of occasional suffocation; stomachic symptoms and dropsy are also frequent occurrences. But the disease seldom proves fatal, without the supervention of chronic inflammation; and then the symptoms change.

Partial dilatation of the heart, of the cavities of one side, is of more frequent occurrence than uniform dilatation, and the symptoms are somewhat different. The little inconvenience which sometimes attends dilatation of the right side of the heart, is very surprising. "I have met with many cases of this partial dilatation," says Mr B, "and have generally found, that except when the patients had been exerting themselves, or exciting the vascular system, by drinking ardent spirits, the symptoms were hardly ever troublesome. The difficulty of breathing was slightly complained of, and some were affected with cough and spitting of blood." Such patients are very subject to hæmoptoe, when the circulation is preternaturally increased. The rationale of this is very obviously explained by our author. The enlarged cavity is excited to discharge upon the pulmonary arteries, more blood than their capacity can contain and circulate. From this tendency, and from the disposition of the dilated heart to inflammation, the proper treatment consists in the antiphlogistic regimen, issues, and the use of digitalis.

When chronic inflammation does supervene, the pulse becomes frequent, irregular, and jarring; often an acute pain is felt in the abdomen, very seldom in the region of the heart itself; and, when the disease is somewhat advanced, a pulsation, more or less conspicuous and violent, is perceived in the epigastrium. This pulsation of the epigastrium, often very remarkable, depends on the adhesion effected between the pericardium and heart. The motions of this organ are thereby curbed; its surface can no longer glide along that of the pericardium; and therefore every pulsation of the heart must now be accompanied with a displacement of the diaphragm, which must be elevated and depressed during the contraction and dilatation of the heart. In chronic inflammation, a very unpleasant jarring sensation, as if water were interposed, is also communicated to the hand applied over the chest; the breathing becomes laborious and difficult, the face bloated, and the limbs œdematous. Though now distinguished by the name of chronic inflammation, this disease is, in truth, a very acute one; it is accompanied with pyrexia, and the patients do not long survive the attack. There is perhaps no disease the diagnosis of which is more difficult. Cases are related, where the symptoms were so anomalous, or rather so pathognomic of some other well known disease, that no suspicion could be entertained of its true nature, previously to the death and dissection of the patient.

One man had pyrexia, constant pain in the pelvis, and complete retention of urine; became speedily comatose, and died. Every part within the pelvis and abdomen was sound; so was the brain; but the pericardium was found firmly adherent to the heart.

A healthy middle-aged lady complained of cough, flitting pains in the chest, shortly after miscarriage; then of vomiting, headach, excruciating pain of the pelvis, with suppression of the lochial discharge; soon after, she became delirious, and died. The uterus was found quite healthy; the abdominal viscera were sound; the right lung adhered to the pericardium and mediastinum; the pericardium was partially glued to the heart, and between them was seen a quantity of oily, flaky, perulent-like fluid; and wherever the pleura, or heart, were in contact with this matter, they seemed as if boiled in pus. The diagnosis of this disease becomes, in other examples, difficult, from its complication with other morbid conditions, with dilatation of the heart, with disease of the valves, with pneumonic inflammation, and other affections of the lungs. Generally, however, the symptoms which distinguish chronic inflammation of the heart, are the frequent and irregular pulse, the jarring noise in the chest, the pulsating tumour in the epigastrium, pain in the abdomen, or in some distant part, rarely in the region of the heart itself. Mr Burns here is at some pains to show, that palpitation cannot possibly take place in this disease, at least after a close adhesion has been formed between the heart and pericardium.

The heart, so far from being enlarged or dilated, is sometimes found diminished in size, all the cavities being contracted. In one case, the adult heart was found by our author little larger than that of a new born child: in another he found it no larger than it usually is in a girl of six. "Where the heart is too small for the system, the pulse will be frequent and small, the frame delicate. If, however, the patient be predisposed to phthisis, then, as the vessels of the lungs are called on to act more frequently than they ought to do, we find, that the irritation excites very serious disease, and, in general, the patient dies from ulcerated tubercles, or sometimes from pneumonia."

In speaking of the consequences resulting from change of structure of the substance of the heart, our author labours, with too much refinement we think, to persuade us that the heart is nothing more than a reservoir to the arteries, and that the circulation is carried on by these independently of the heart. Caterpillars have no heart, and fish have but one for the pulmonic circulation; and therefore a system of vessels may undoubtedly circulate blood, without the assistance of the reiterated impulses of a heart. But man is furnished with a double heart, one for both circulations, and an auricle and ventricle for each; and we cannot otherwise believe, but this most beautiful contrivance is necessary to the circulation, and that the arteries receive from it those impulses, by which they are enabled to push forward through their minutest ramifications the blood which is sent to them.

But, what takes place when the muscular and contractile power of the heart, or of the arteries, is greatly impaired?

"In the first instance, that part of the heart which remains healthy, performs, besides its own functions, a considerable portion of the action belonging to the part diseased; and in the latter case, the heart is compelled to act with redoubled vigour; for, in proportion to the loss of arterial power, so is the heart called upon to make up the deficiency. The circulation can, in either case, be carried on; but the vascular system is in a precarious state. Very trifling causes derange this mode of circulation; nay, in some cases, put a final stop to it. In those cases where the arteries have lost, from ossification, their contracting power, the circulation is chiefly carried on by the percursive action of the heart, aided indeed by such parts of the vascular system as remain unaffected. In all cases, however, where the blood is circulated in this way, the pulse is feeble, and peculiar in the sensation it communicates to the finger; and the patients appear sallow and unhealthy."

With such observations before us, we really do not clearly comprehend in what manner the heart and arteries can be said to act independent of each other.

The principal change of structure to which the heart is liable, is ossification, and of the ventricles more frequently than of the auricles. Once only has our auther seen ossification of the auricle; and never has he met with a case in which both the auricles and ventricles were, at the same time, affected. Such cases, indeed would (in our apprehension, who believe that the action of the heart is required to give impulse to the blood) be quite incompatible with the existence of the circulation. When the ventricle alone is ossified, the blood may still be impelled into the arteries by the action of the corresponding auricle, and the circulation, though imperfect, continued.

"The ventricle may be ossified, and may be rigid as stone, and yet the blood may find its way into the arteries, and be fairly circulated through all the parts of the body."—"For so long as the auricles remain healthy, they continue to receive, contain, and propel the blood into the ventricles; but if these be incapable of reacting on their contents, the blood must stagnate in them till the next impulse from the auricle drives a part of it into the arteries, which urge it on by their single and unaided effort, as in the fish."—"In this plan of the circulation, the arteries never can receive their due quantity of blood; for no more can be sent to them than is displaced by the action of the auricles. There being, however, no valves between the auricles and veins, and there being an increased resistance on the part of the ventricle, a considerable portion of the contents of the auricle must be forced back into the veins, producing a pulsation in the neck, and undulation in epigastrio. The action of such a heart is unharmonious, and easily deranged; it can only act efficiently while the circulation is undisturbed. If called on to increase its action, it begins to jar, and is soon exhausted."

Thus, the auricles come in fact to perform both their own functions, and also that of the ventricles; and therefore it is, that when the ventricles are ossified, we find the flesh of the auricles firmer and stronger than usual.

The observations on ossification of the coronary arteries, and on syncope anginosa, contain nothing very singular or new. And indeed, after what has been written on this subject by Drs Heberden and Jenner, and so fully by Drs Parry and Fothergill, little novelty was to be expected. Mr Burns's commentaries, however, are clear and instructive, forming, as they do, an excellent resumée of the principal facts and doctrines connected with this disease. The next series of observations is on the effects resulting from change of structure of the valves of the heart and large arteries. This change of structure is commonly ossification, and is much more frequently met with than ossification of the heart itself. The arterial valves are more subject to this change, than the auricular, and those of the left than of the right side. A number of highly interesting cases, with instructive commentaries, are given by Mr Burns. The general effects of these changes are thus stated.

"From what we have learnt respecting disease in the *pulmonary valves*, it would appear that, when the blood is obstructed in its passage to the lungs, the person is generally emaciated, of a sallow complexion, constantly labouring under a load and oppression about the breast; a struggling about the chest; a feeling of constriction in the thorax; and the symptoms of dilatation of the right side of the heart: and in the end, they are carried off by reiterated attacks of syncope, and dropsical effusions. These are the symptoms which most frequently result from the passage of the blood into the lungs being obstructed. When the aortic valves are thickened, indurated, and encroach on the canal of the vessel, we find that there is, on using exercise, a greater or less difficulty of breathing brought on; sometimes attended with expectoration of a serous bloody fluid, or at other times followed by a torrent of frothy blood from the trachea. The pulse is intermitting and variable, pretty regular when the person is at rest, but discordant, and not equally frequent with the contraction of the heart, when the person is fatigued. There is often palpitation of the heart, or rather an irregularity of action, bearing some resemblance to it; there is an oppression about the chest, accompanied often with pungent pain in the region of the heart, and severe dyspnœa; and, in very urgent cases, the person, towards the close of life, becomes dark on the surface, and dies dropsical. Ossification or induration of the mitral valve, is productive of nearly the same effects as arise from obstruction at the mouth of the aorta." But, "where the obstruction to the passage of the blood is very complete, it has been known, that the parietes of the heart have given way during the contraction of the fibres. The heart bursts in precisely the same way, and for the same reason that the uterus ruptures at the instant that it expels the fœtus."

Of polypi of the heart, the greater number are to be attributed to the separation and coagulation of the blood, in articulo mortis, or after the cessation of life. Some have altogether denied them any other origin or existence. But the most sceptical must admit their existence, where marks of organization, or of other slow and gradual changes can be demonstrated in their structure. It is not likely that these exist as idiopathic affections, as they are seldom if ever found in hearts not otherwise diseased. In cases of diseased heart, however, where the circulation through its cavities is much impeded, and the blood may occasionally stagnate, it is not difficult to conceive the slow formation and subsequent organization of coagula.

In a person who died of angina pectoris, the coronary arteries being ossified—

"In the left ventricle a polypus, which measured more than one inch in length, was found attached to the septum of the heart. That side of the polypus next to the septum, adhered so firmly to it, that the membrane lining the ventricle tore before the polypus could be separated from the heart. Where the two were in contact, the septum was pointed with small red vessels, and was besides rough. This fact, of the firm union of the polypus with the heart, is a sufficient proof of the vitality of the former; but this is established beyond a doubt, by an abscess being found in the centre of the polypus. This abscess, when opened, discharged above a teaspoonful of perfectly purulent matter."

Mr Burns farther informs us, that he has in his possession "a heart where the concretion is as large as a pullet's egg, and where it is attached by a broad base to the side of the left auricle, which, over its whole extent, is thickened and diseased; and, in this instance, by forcing air into the coronary vein, we could inflate some few vessels in the new formed substance, in which there were likewise some specks of bone."

The existence of vessels and bone in this polypus are decisive of its organization.

We have thus followed Mr Burns through his observations on the diseases of the heart, of which we have laid a very abridged view before our readers. The great merit, however, of the text it was impossible to embody in our analysis; for much of its value depends on the many interesting cases narrated from his own practice, or selected from the communications of his colleagues and friends, or from the writings of Morgagni, Lieutaud, and other collectors, and the very spirited and judicious criticisms and remarks with which Mr Burns has connected and explained them.

These observations were originally composed for oral instruction, being lectures delivered to his pupils. But in preparing them for publication, we must regret that Mr Burns had not chosen a less exceptionable form than that of discourse. In lecturing to young men, the teacher must often invoke the attention of his hearers; he must recal circumstances and past observations to their memory, and place his subject in many different points of view. The style of written discourse becomes necessarily prolix, diffuse, and redundant, loaded with repetitions, and often interrupted by references. This is quite unnecessary when the book is before us; and the intelligent reader is fatigued, and sometimes disgusted; for he likes to be instructed, not schooled and whipt into the opinions of the writer.

In his discourse on aneurism of the thoracic aorta, our author, after acknowledging generally the great obligations due to Scarpa, and adopting the theory of the formation of aneurism inducted from his observations, takes occasion to differ from him in some particulars.

The numerous observations of the Italian professor led him to conclude, that the root of an aneurism never includes the whole circumference of the tube of the artery. But Mr Burns has a preparation in which the whole cylinder of the vessel, from the heart to beyond the curvature, is equally dilated, and to such an extent, that the tumor measures no less than ten inches in circumference. And that this uniform dilatation bore, in all other respects, the true character of aneurism, he thinks demonstrated, by the laminæ of coagulated lymph investing its internal surface; by the rents or fissures left between the separated rings of the fibrous coat; and by the diseased condition of these internal coats.

Next, he contends, that to the production of ordinary true aneurism, something more is necessary than mere rupture or destruction of the internal coat. Did no other previous or concomitant change take place, the blood would be injected between the internal and external coats, and separate them to a large extent beyond the breach in the internal coat. According to the observation of Mr Burns, the external coat is thickened and strengthened, and adhesion takes place more closely between it and the internal, all round the opening of the latter, by which the injection of the blood between the coats is prevented, and the external allowed to form the circumscribed aneurismal tumor.

> "The rupture of the internal coats of an artery is not the first part of the process which takes place in the production of an aneurism. Before this happens, we find that the external coat has, all round the diseased part of the proper coats of the vessel, been fixed to the healthy coats more firmly than usual, and also that the texture of the cellular coat has suffered a change, for now it is denser and thicker than natural."

Aneurism of the thoracic aorta is a very frequent disease. Mr Burns, who has seen but three cases of external aneurism, has met with fourteen cases of the aortic. Of this disease patients have sometimes died, without any suspicion of its existence having been entertained, and, indeed, without their having suffered those symptoms which could have led to a suspicion of the aneurism.

Where the aneurism does produce obvious symptoms, there is uneasiness in the chest, palpitation or irregular action of the heart, dyspnœa, short stifling cough, and bloody expectoration; and there is a working and beating about the thorax, and constant tendency to syncope, or oppressive feeling of weight or constriction about the heart, with furious pulsation of the carotids. The pulse is various, hard, slow, and chord-like, small and tremulous, feeble and intermittent, and sometimes in the two arms it is not alike. From the pressure of the aneurism on the œsophagus and trachea, there is often dysphagia, and affection of the breathing for some time previous to the death of the patient. From a review of cases, Mr Burns thinks "that when the ascending aorta is aneurismal, the breathing is more affected than when the arch of the vessel is enlarged, but that deglutition is in the latter case more impaired than in the former."

In aneurism of the thoracic artery, death may thus be produced by the mechanical pressure of the tumor on the neighbouring parts; the patient may be starved from pressure on the œsophagus; and sometimes he is suffocated by compression of the trachea; and sometimes the patient is carried off in a less obvious way, by some connexion with pregnancy. This is a curious observation, that women, having aneurism of the aorta, or organic diseases of the heart, often die unaccountably in the early stage of pregnancy, suddenly too, and without any rupture of the aneurism. Cases of this nature are narrated by our author. In most cases, however, the fatal issue of aneurism is owing to rupture of the sac, in consequence of which the blood is poured into the pericardium, into the trachea, or into the general cavity of the thorax, and sometimes it bursts externally, having, by its great size and pressure, destroyed all between itself and the surface. When the tumor bursts within the pericardium, death is almost instantaneous, for the heart is overpowered by the blood which flows in upon it. When the tumor bursts into the trachea, death cannot be protracted. But where the sac bursts into the general cavity of the chest, death takes place more slowly, but no less certainly.

Preternatural pulsation in the abdomen, though in many cases symptomatic of organic affection of the heart and larger arteries, often exists without any such connexion. Several varieties of this kind are pointed out by Mr Burns.

It takes place in dilatation of the heart, and in chronic inflammation, when adhesion has taken place between the pericardium and heart. The pulsation is felt so low, that it has been mistaken for aneurism of the cæliac artery.

Preternatural pulsation may also arise from tumors of various kinds in the diaphragm, in the pericardium, in the lower part of the lungs; from indurations of the pancreas, of the pylorus, of the mesentery. In such cases the pulsation is communicated by the heart, or neighbouring large artery, and propagated through the tumor with increased effect. Pulsation is also produced in epigastrio by regurgitation of the blood along the vena cava inferior, which is sometimes found greatly dilated and enlarged.

Often, too, pulsation is here to be traced to no other source than nervous irritation, as has been shown by Dr Albers, in the

9th Number of this Journal. Such cases are successfully treated by purgatives, and medicines restoring the tone and action of the chylopoetic viscera.

In his remarks on the unusual origin and course of the large and important arteries of the human body, Mr Burns points out a number of deviations from the common distribution of the arteries, which have come under his own observation; and to these observations he has given an interest and importance, by many judicious remarks and practical conclusions. His observations on the anomalies of the pudic, obturator, and epigastric arteries, are particularly worthy of the surgeon's attention.

II.

An Inquiry into the Symptoms and Treatment of Carditis, or the Inflammation of the Heart, illustrated by Cases and Dissections. By John Ford Davis, M.D. &c. Bath, 1808. Small 8vo. Pages 190.

Dr Davis has seen but one case of Carditis, and out of it he has manufactured a book.

"Miss A, twelve years of age, complained, during the first week, of pain under the sternum, in the left shoulder, and at the upper and inner part of each instep. The pain in the insteps lasted ten days, and was so violent, from the third to the tenth, as to prevent walking, for the performance of which she was not disqualified by the severity of the other symptoms. On the eighth day, there was difficulty of breathing and palpitation, which last symptom became so extremely violent in the more advanced stage of the disease, that the whole chest seemed in motion; and the immediate action of the heart was compared to a hard body grinding against the ribs. After the first ten days, the pain in the insteps and shoulder was no longer felt, while that under the sternum became extremely severe, and extended to the left side. Notwithstanding the difficulty of breathing increased after this period, and was attended with a slight cough, there were occasional remissions of it and of the pain, especially after opiates, which were administered from an opinion of the spasmodic nature of the complaint. The pulse was small and quick, seldom beneath 130, never unequal nor intermitting, *except occasionally during sleep*. Skin in general only moderately warm, but great heats, with perspiration, occasioned by the extreme anguish which she felt in the region of the heart, frequently took place. Screaming, and the most violent jactitation of the body were also produced by it. Tongue clean and moist till towards the last, when it became whitish. There was considerable thirst. Urine rather high coloured; and it was remarked, that some, passed ten days before death, after standing a few hours, deposited a sediment, and appeared milky on being shaken. Bowels rather costive, but stools were often procured by means of common cathartic medicines. Vomiting commenced five days before death, and continued to the end. Syncope never occurred. Towards the close of the scene, there was pain in the region of the liver. She was perfectly sensible throughout, there being not the slightest affection of the head. The disorder lasted 26 days. She generally leaned forwards, with an inclination towards the left side; and did so, even when in bed, placing a pillow against her heart. She could, however, lie down during the remission of difficult respiration, though not on the left side. Sometimes she could not bear the least pressure upon the region of the heart. Two bleedings were employed, without relief, one on the eighth, and another on the eighteenth day. The blood drawn exhibited an inflammatory crust. Previous to this illness, she had been a very healthy girl, having had no particular indisposition, except inflamed tonsils, to which she was occasionally subject. A lumbricus was voided in the early stage of the complaint.

" *Dissection.*—The pericardium was very much inflamed, and thickened. It adhered to the pleura. The tendinous part of the diaphragm, to which the pericardium naturally adheres, was also the seat of inflammation. The muscular substance of the heart, likewise, was inflamed to some depth, and the firmest adhesion had every where taken place between it and the pericardium, presenting that appearance which has sometimes led anatomists to pronounce the pericardium wanting. The heart appeared to be enlarged, and was pale and flaccid internally. Large masses of coagulated lymph were found about the auricles and origin of the large vessels. The lungs on the left side were considerably inflamed, adhering to the pleura. The liver was large, and of a very deep colour, from turgidity of its vessels. The gall-bladder was quite full of dark green bile. The principal vessels upon the surface of the stomach and intestines were very much distended with blood, but there was no actual inflammation of those parts. The head having always been free from complaint, was not examined."

Two other cases are prefixed to this, the one communicated by Dr Haygarth, the other by Dr Boisragon, in which, though no suspicion of the nature of the disease had been entertained during the lives of the patients, marks of inflammation of the heart were discovered on dissection.

Dr Haygarth's patient, a boy, aged seven years, with pyrexia, had pain of the head, wandering pains, pretty acute, in the leg, heel and ankle, in the epigastrium, and left of the chest, and in the abdomen, at different periods of his illness. There was also delirium, somnolence, and moaning. The symptoms were very anomalous, but such, upon the whole, as would have excited in our mind the apprehension of hydrocephalus internus, rather than of carditis. After death, the arteries, veins, and sinuses of the dura and pia mater were turgid with blood. There were between three and four drachms of serum in the ventricles of the brain. The heart, however, was chiefly diseased. The pericardium was very much inflamed, and connected with the external surface of the heart by several firm adhesions; and the surfaces of of both were covered with purulent matter.

In Dr Boisragon's case, a girl of 16, after the sudden disappearance of inflammation in her feet and ankles, was seized with hysterical symptoms, and delirium, of the maniacal kind, which continued the most prominent symptom during the course of her illness. She once exclaimed, "Oh my heart! I wish it would burst." Pulse was 120, hard, and full; and afterwards, 136. No cough, or any other symptom of pneumonic inflammation, occurred at any period of her illness. *Dissection.*—No appearance of inflammation in the brain or membranes. The lungs were red, and full of grumous blood, but not inflamed.

> "The external aspect of the heart was natural, and the usual quantity of fluid was found in the pericardium. On cutting longitudinally from the apex to the base of the heart, very decided marks of inflammation were observed over the whole internal surface of the right ventricle, and to a slighter degree in the other. The columnæ carneæ and transpedal valves were greatly inflamed. The inflamed parts were covered with a layer of extravasated matter, resembling the coagulable lymph of the blood. Marks of inflammation were also perceived on the upper surface of the diaphragm, and about the cardiac orifice of the stomach."

Dr Davis begins his volume, by examining the accounts which have been given of carditis by nosologists and systematic writers. The symptoms attributed to the disease, are found to be contradictory and various; and none of them agree with either of the three cases next related. Having stated his cases, he proceeds, in the following section, to his analysis, with the view of inferring conclusions from them.

The anguish that is felt in the region of the heart, he thinks the most characteristic and essential symptom of carditis. "The secondary symptoms are very numerous, and consist of fever, palpitation, irregular pulse, cough, difficulty of breathing, delirium, syncope, vomiting, and *perhaps* wandering pain in various parts of the body." But these symptoms are varied in different cases. Each symptom appears to be sometimes present, sometimes absent.

Palpitation, Dr Davis assures us, was present to a very remarkable degree in the case of Miss A.; and yet in her case the pericardium adhered closely to the heart. But it it is curious to observe how differently different men will reason upon, and infer conclusions from the same fact. Mr Burns, we have seen, has, in a way very satisfying to us, shown that palpitation is a rare symptom in carditis; that it cannot possibly take place after close adhesion has been formed between the heart and pericardium; and that the thing is just possible, if they are merely connected by membranous elongations.

Dr Davis, on the contrary, says, the palpitation might have arisen from the adhesion between the heart and the pericardium, and not merely from the inflammation. But if the adhesion have been formed by membranous elongations, he can readily admit palpitation to be wanting, "*as the heart will then have sufficient room for its ordinary action.*"

In palpitation, the heart acts unrestrainedly; it flutters in the thorax, and strikes violently against the side. But if it be fairly fixed down by close adhesion to the pericardium, this free, unrestrained, and violent action, cannot possibly happen. The jarring motion within the chest, or the pulsating tumor in the epigastrium, have perhaps been mistaken for palpitation. Indeed, Dr Davis is too much disposed to make his own cases the criterion of the symptomatology of this disease. Dr Darwin is not the only writer who has observed vomiting as a symptom of carditis; and Mr Burns tells us, that we often find vomiting, and very obstinate vomiting, attendant on this state of the heart. Irregularity of the pulse, cough, and dyspnœa, are also very common symptoms, although they did not occur in Dr Davis's case. The pain in the insteps and left shoulder, easily arrange themselves with the many varieties of distant pain observed in this disease; as pain in the epigastrium, in the abdomen, in the groin, in the bladder, in the uterus, &c.

Indeed those distant pains appear to be much more frequently noticed in the histories of inflammation of the heart, than pain of the organ itself.

Our author goes on, after this, very methodically; and, in different titled sections, to enlarge on the diagnostic signs of carditis—on the causes—nosological character, and remedies of a disease, which he has confessedly seen but once.

The only case which Dr Davis has seen, appears to be one of that disease, called chronic carditis, so ably and fully described by Mr Burns. The enlarged heart, the complete adhesion, the symptoms, their series and order are very distinctly marked.

Dr Davis's book is truly no more than a commentary on the three cases he has related, and which he has erected into a standard, whereby all former observations and descriptions may be tried. From the whole, he draws the following conclusions.

> " 1*st*, Syncope, and irregularity of the pulse, which a priori might be supposed to attend carditis invariably, and which systematic and nosological writers have included in their definitions of this disease, did not occur in either of the cases.
>
> " 2*d*, Palpitation happened in one case, and then only in the advanced stage of the complaint, after adhesion may be supposed to have taken place between the heart and pericardium.
>
> " 3*d*, The usual marks of deep-seated inflammation, as rigor and flushing, were not observed; nor was there so much fever as might reasonably have been expected.
>
> " 4*th*, Delirium, which no author appears to have mentioned as a symptom of this disease, happened in two of the cases.
>
> " 5*th*, Other symptoms, denoting a high degree of nervous excitement, viz. wandering pains, and spasmodic affections of various kinds, and even tetanus, (not recorded by any author as far as I know), are observed to attend the inflammation of the heart.
>
> " 6*th*, Vomiting, mentioned by Dr Darwin as a constant symptom of cariditis, happened in one case.
>
> " 7*th*, So far from being always complicated with pneumonia, as some authors have asserted, there was no symptom of pneumonic inflammation in two of the cases. In the other, inflammation commenced in the heart, and was confined to that organ during eight days; after which, it extended to the lungs; and the usual symptoms of pneumonia followed.
>
> " 8*th*, Inflammation may take place within the ventricles, which seems not to have been observed before.
>
> " 9*th*, If there be any pathognomonic symptom, it is the extreme anguish that is felt in the region of the heart.
>
> " 10*th*, From the relief which followed blood-letting in two of the cases, it is probable, that, if it were employed more freely than has hitherto been done, the disease might be cured."

III.

A Treatise on the Management of Female Complaints. By ALEXANDER HAMILTON, M. D. Professor of Midwifery in the University, &c. Sixth Edition, Revised and Enlarged. *With Hints for the Treatment of the Principal Diseases of Infants and Children.* By Dr JAMES HAMILTON, Junior, Professor of Midwifery in the University of Edinburgh, &c. Edinburgh, 1809. 8vo. Pages 408.

THIS treatise on the management of female complaints, composed originally for the use of midwives, by the late Dr Alexander Hamilton, has amply fulfilled the intention of its author. It has now gone through six successive editions, with undiminished reputation. And indeed to this work we may fairly attribute the destruction of a host of popular prejudices, and much of that intelligence and address, which may now be remarked in many of our female practitioners in this country.

To this edition, a general sketch of the chief diseases of infancy and childhood has been added by Dr James Hamilton, the present distinguished professor of midwifery in this university. It is of this sketch we are now to lay some account before our readers. Of the zeal, intelligence, and experience of Dr Hamilton in these diseases, we need say nothing. His observations on the diseases of infancy and childhood will not disappoint the expectation of his readers; though they may regret that Dr Hamilton has confined himself within such narrow limits. But in the same number of pages, we have seldom met with so much valuable practical information. We discover everywhere traces of a man who has thought and acted for himself; original views, and some striking deviations from the common routine of practice; the result however of a share of experience that has not fallen to the lot of every one.

The conciseness of Dr Hamilton's remarks do not admit of abridgement. Without, therefore, attempting a general analysis of this treatise, we shall confine ourselves to such extracts as may enable our readers to form some judgment of the merits of the whole.

Dr Hamilton divides his work into three chapters, in which he treats successively of the management of infants,—of the diseases of childhood,—and of the diseases common to infants and children. The period of infancy includes that from birth to the complete protrusion of all the milk-teeth; and the period of childhood comprehends the remaining years which precede puberty.

Under the head of teething, we find some valuable observations; and at a time when the connexion between this process and disease has been disputed by several physicians, it may be worth while to direct the attention of our junior readers to the opinion of an enlightened practical physician.

"The utility of dividing the gums, when on the stretch, might be estimated from analogy. What remedies could so effectually remove the swelling and inflammation produced by a thorn in the flesh, as extracting the thorn? But it is unnecessary to offer any extended reasoning on a subject, which is now ascertained by experience. Not only are all the painful feelings relieved by the operation, but even convulsions, which had resisted every possible mode of treatment, have been known to cease from the moment that it was performed. It is therefore to be regarded as indispensable, in every instance where pain or distress accompany dentition. Though a very simple operation, it has often been bungled. A proper gum-lancet is to be used, and, in general, a crucial incision is to be made: this is particularly necessary in the case of the grinders; for if a single fibre remain undivided, the irritation continues."

After noticing a variety of well-known complaints, produced by difficult dentition, our attention is directed to a very alarming and singular species of spasmodic croup, observed in infants during the period of teething, and apparently caused by the irritation which accompanies that process.

"The most formidable symptom, except convulsions, which occurs during dentition, remains to be noticed: It is a kind of convulsive stricture of the upper part of the windpipe, producing a peculiar crowing sound, as if from threatening suffocation. This affection is quite momentary, and generally happens on awakening from sleep; on taking drink or food; or on the infant being teazed or irritated. Sometimes the fits are redoubled; but more often they are single. The disease is unaccompanied by fever, or any material derangement of the general health. When cough attends, which is not always the case, it is not hoarse, and the breathing during the intervals is perfectly free. Those circumstances distinguish it from the croup, which it resembles in the crowing sound.

"This complaint is of such rare occurrence, that it has been little attended to by practitioners, and has not been accurately described by any author. It has appeared in the most robust, as well as the most delicate infants; and, as far as my observation enables me to judge, is peculiar to the period of cutting the deciduous teeth. It sometimes continues for months, occasionally decreasing in violence, and suddenly again becoming aggravated; so that, for a week or two, the infant shall have forty or fifty attacks within the twenty-four hours, and then the number shall be diminished to eight or ten. The event to be dreaded is sudden suffocation, or a severe convulsion, from which the infant cannot be recovered. In one case, this happened at the distance of five months from the first attack, and after the infant had seemed almost completely relieved from the disease.

" In the treatment of this complaint, the utmost attention, on the part of the practitioner, is required, as no reliance is to be placed on any apparent remission or mitigation of the characteristic symptom: and so long as it continues to recur in any degree whatever, danger is to be apprehended. The plan of cure which has hitherto seemed the most successful has been, to watch the state of the gums, so as never to allow much local irritation from the pressure of the teeth, to open the bowels very freely, to regulate the diet, to direct some stimulating substance to be rubbed every six hours on the outside of the throat, and to give frequently some antispasmodic. After having tried the effects of preparations of opium, hyoscyamus, valerian, and assafœtida, without any apparent benefit, I have been led to give the preference to Dalby's carminative, in doses at least double of what are prescribed in the printed directions. Blisters on the throat or breast are to be used as auxiliaries; and the warm bath and emetics are to be occasionally advised, for the purpose of palliating symptoms."

The catarrhal fever, peripneumony or bronchitis of infants, proceeds sometimes to a great height; and there is one variety attended with cough and fever, and soon after with excessive frequency and shortness of breathing, which is not only very alarming, but actually destroys a great many of those who suffer from it. " There is neither wheezing nor crowing, nor any apparent obstruction in the windpipe; the pulse is so frequent and small, that it cannot be numbered; the heat of the skin is perceptibly increased; and, in robust infants, the colour of the countenance is more than usually red. In others, however, there is an apparent shrinking of the features. At any rate, the face is not purple nor flushed." This disease has commonly been treated on the antiphlogistic plan. The practice of Dr Hamilton is very different.

" In the treatment of this disease, the chief indications to be kept in view should be, supporting the strength, and producing such a determination to the surface as shall relieve the lungs. The former of these is to be accomplished by suitable cordials; such as wine and milk, the aromatic spirit of ammonia, or the spirit of nitrous æther, properly diluted with syrup and water. A large dose of the tincture of hyoscyamus is to be given evening and morning, both for the purpose of supporting the strength, and for that of allaying the irritation in the lungs. Preparations of opium are only useful where this affection supervenes to the measles, which it sometimes does. The latter indication is best fulfilled by the application of blisters and other external stimulants, particularly amber oil, rubbed over the sides of the chest every six or eight hours. Along with these means, such doses of laxative medicines are to be given as shall produce daily three or four evacuations.

"Bleeding, by means of leeches, which some recommend in this and other febrile affections of infancy, is always most injurious. In some cases it very rapidly sinks the strength, and, in others, it occasions a shock to the constitution from which the individual never recovers. There is in this part of the island a particular prejudice in favour of blood-letting in every disease of infancy or childhood, which is attended with an inordinate action of the heart and arteries, and an increased heat of the skin; and the rapid abatement of the distressing symptoms, such as oppressive heat, restlessness, startings, &c. furnishes to superficial observers a strong evidence of the utility of the practice. But it should be recollected, that during infancy every part of the body is in a progressive state of growth, which renders a constant supply of blood necessary, and that, if the digestive organs be incapable of performing their functions with energy, the loss of even a small quantity of blood cannot be repaired. Accordingly it often happens that dropsical symptoms, or incurable purging, or scrofulous swellings, are the consequences of this practice, where the infant does not immediately sink under it.

"From these observations it is not to be concluded, that bleeding, by means of leeches, ought never to be recommended in the diseases of infancy; it is the indiscriminate use of such powerful means which alone is objected to; and it may be confidently added, that it can be neither safe nor useful in above one of the hundred cases in which it is at present employed."

Our author is seldom an indolent looker-on; his practice is generally spirited and active. The following observations on the treatment of scrofulous symptoms are important, and we think perfectly just.

"If, notwithstanding these means, scrofulous affections actually appear, some preparation of mercury or antimony, or both combined, in very small doses, or of neutral salts dissolved in water, should be suggested. The former of those are to be employed in infants, and the latter in children, especially towards the age of puberty. The neglected remedy of the polychrest salt merits, according to my experience, a decided preference to every other saline preparation. An aloetic pill should be given at bedtime, and such a dose of the salt early in the morning, as shall procure three or four loose motions. This is to be continued for weeks, or for months; and it will be found, that instead of weakening the patient, it improves the strength, and alters very materially the appearance of the swellings or sores. After six or eight weeks, the sulphat of iron may be taken once or twice a-day, without interrupting the course of the salt. The Peruvian bark is proper only where there are considerable discharges from the sores, or a threatening of hectic fever; and in such cases the myrrh, combined with preparарions of iron, seems more efficacious. The muriate of lime has been much extolled by some of my professional brethren, in whose practical discernment and integrity I have much confidence. In some cases of alarming complications of this disease I have made a cautious trial of the foxglove, and of arsenic. The former has apparently done good, but the latter made no amelioration, either on the genêral health or on the local affection, while it impaired the appetite and powers of digestion. Perhaps this might have been owing to the form, which was that of Fowler's tasteless ague drops.

"Scrofulous swellings and sores require more attention than is usually paid to them; not that attempts to discuss or to heal them should be hazarded, till the operation of the remedies adapted to the general habit be obvious. But, after this is ascertained, no delay can be allowed. In the usual treatment of the local affections, it has long appeared to me, that surgeons use too indiscriminately cold astringent applications, and much too sparingly the scalpel. That cold water or sea-water, or solutions of metallic astringents, are often proper, cannot be questioned. But in many cases of extensive swelling, with great hardness, the hemlock poultice, renewed every twelve hours, has a most powerful effect. Popular prejudices prevail against any operation for giving a free outlet to the matter when a fluctuation is perceived in the swelling; and to this prejudice surgeons have in general yielded too implicitly. If this subject be considered calmly, it will appear, that stagnant fluid must irritate materially the parts within which it is contained, and that the process by which a natural vent is occasioned, must be accompanied with a considerable loss of substance. These two circumstances, combined, are the chief causes of the ugly scars which follow the healing up of scrofulous sores. But it is not entirely on speculative principles that I think it often necessary to recommend opening scrofulous swellings, for I have found by experience, that, in many cases, by this practice, almost all mark has been prevented. It is impossible in this work to point out with accuracy the precise circumstances which should induce the practitioner to have recourse to an operation.

"Another modern deviation from the ancient practice, which seems to have been carried too far, is, the applying to scrofulous sores nothing else than superficial dressings; for, in many instances, some gently stimulating substance, introduced daily into the cavity of the sore, excites new actions on its surface, and thereby not only prevents any disease spreading into the neighbouring parts, but also contributes to the healing up of the original sore."

It is now pretty generally known that Dr Hamilton, and many other practitioners, have altogether abandoned the use of the lancet in croup, and trust entirely to calomel, given in large and repeated doses. Of the good effects of calomel we can also speak from our own experience. But we every year see cases which we have not ventured to trust to this medicine, and which, from the violence of the symptoms, required one or more general bleedings. Nor have we ever yet had cause to regret the blood we have drawn. On the contrary, we have sometimes had the satisfaction to see the disease thereby cut short *in limine*, and, for the most part, our little patients rescued from immediate danger.

A great many cases of croup may undoubtedly be confided to calomel alone; but we cannot help thinking that the proscription uttered against bleeding, by those who trust the safety of every patient to calomel, is much too general.

The confidence, however, acquired by Dr Hamilton in the mode of treatment recommended by Rush, we know to be the result of experience, and very careful observation. To avoid ambiguity, we shall give Dr Hamilton's account of this practice, in his own words.

> "Immediately upon the attack, the child must be put into a tub of water, heated to the ninety-sixth degree of Fahrenheit's thermometer, (that is, to the degree which the hand immersed in it can easily bear), or must be wrapped up in a blanket wrung out of hot water. Whether the bath or the fomentation be employed, it ought to be continued for at least ten minutes; and then the child should be carefully rubbed dry, wrapped up in warm flannel, and put to bed.
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> "A dose of calomel is now to be given, and repeated every hour till the breathing be evidently relieved; when it is to be gradually discontinued, allowing at first two, then three, and finally four or five hours to intervene between each dose, according to the state of symptoms. This medicine commonly occasions both vomiting and purging; and in true croup, the first alleviation of symptoms generally follows the discharge of a great quantity of dark green coloured matter (like boiled spinage) by stool; but if the attack have been that of spurious croup, the breathlessness ceases after vomiting has occurred.
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> "The dose of calomel is to be regulated principally by the age of the little patient. During the first year it should be from one to two grains; during the second, two grains and an half; during the third and fourth years, from three to four grains; and during the fifth and sixth, from four to five grains. It may be given mixed with a little sugar as a dry powder, or it may be mixed with currant jelly, or honey, or treacle, or pottage, or panada, or light pudding, or with any thing which is thick; but it cannot be given in drink.
>
> "During the course of the disease, nothing else than liquids ought to be allowed to the child. These should consist of cow-milk whey, very weak tea, thin barley gruel, fig tea, apple tea, milk and water, or toast and water. It may be unnecessary to remark, that

if the child be not weaned, nothing but the nurse's milk should be given. The room in which the little sufferer is kept ought to be moderately warm.

"When the disease has begun to yield to this treatment, nourishment suited to the habits and circumstances of the child is to be exhibited in small quantities, and often repeated. In some cases considerable weakness remains after the crouping has ceased, in consequence partly of the violence of the symptoms, and partly of the operation of the calomel. Under such circumstances, cordials, particularly weak white-wine whey, and a blister to the breast, become necessary. But if proper attention have been paid to the precaution of lessening the number of doses of calomel, whenever the disease is in the least alleviated, the ordinary health of the child will be found restored within a very short time after the symptoms of croup have disappeared.

"For the cure of this formidable disease, practitioners formerly trusted chiefly to bleeding, with the use of vomits and blisters as auxiliaries; but the result of the practice was, in the more favourable cases, a very considerable shock to the constitution, and, in the majority of instances, the death of the child. These circumstances rendered it fair to make a trial of the practice of giving calomel, first suggested by some American physicians. Accordingly, an old pupil recommended it to me about eight or nine years ago; but I was at first unwilling to try it, as he said it produced, in his practice, no other sensible effect than that of curing the disease. After another year's experience, his report being still favourable, I agreed to make a cautious trial of it; and having now employed it for seven years, and having most accurately and carefully attended to its effects, I consider myself fully warranted in giving the above directions. I have had the happiness of seeing the disease yield where its violence seemed to threaten almost immediate death; and among the little patients on whom it has been successfully tried, one of five months old had thirty-two grains of the calomel within twenty-four hours, and another of the same age, the infant of an officer of excise, eighty-four grains within seventy-two hours. A girl, the daughter of a respectable tradesman in College Street, seven years of age, had, within little more than sixty hours, an hundred and thirty-three grains, and two days after appeared as if she had never had a complaint. In every case where it was employed, previous to the occurrence of lividness of the lips and other mortal symptoms, (amounting now to above forty), it has completely succeeded, both in curing the disease, and in preventing any shock to the child's constitution. In three instances where the case seemed desperate, it was thought right to try its effects, rather than leave the patient to his fate. It neither aggravated nor mitigated the symptoms.

"It is necessary to add, that I have now seen two cases, where, although all symptoms of the croup were removed by the use of calomel, the patients sunk from the weakness which followed. One was an infant of nine months, and the other a child of four years old. Both cases were under the care of the same practitioner, and he candidly admitted, that he had carried the practice too far. When I was called in, the vital powers could not be renewed by the most powerful stimulants. But in another case to which I was called, where the debility was very great, after the use of the calomel, the infant was saved by means of a blister, and a very liberal use of opiates, and wine diluted with milk. Those cases enforce the necessity for carefully watching the progress of the disease, so as to stop the calomel whenever the symptoms begin to yield. In a case where croup occurred after scarlet fever, (the child of a grocer in Richmond Street), along with the calomel, a decoction of snake-root, the favourite remedy of some American practitioners, wine, opiates, and blisters, were employed, and the child recovered."

By almost every writer, the measles has been considered as a highly inflammatory disease, demanding the strictest antiphlogistic treatment, and, according to the violence of the pneumonic symptoms, the free use of the lancet.

The epidemic which raged here last winter, taught us experimentally the danger of this indiscriminate practice. The great depression of the vis vitæ, which was so remarkable in this measles, the frequent livid appearance of the eruption, the tendency of blistered parts to ulceration and gangrene, the actual occurrence of gangrene in some cases, the failure of evacuations in relieving the alarming symptoms of peripneumony, the increased difficulty of breathing, and the great sinking which followed even the application of a few leeches, led us, at last, to be very sparing in every evacuation, except purging, and, in many cases, to have recourse to wine, bark, and digitalis. And we had every reason to congratulate ourselves in our change of practice. The necessity, however, of this change of practice, we attributed, in a great measure, to the peculiar type of the then prevailing epidemic. Our former experience, and the almost unanimous voice of the profession in favour of blood-letting in this disease, necessarily prevented us from generalizing our latter observations. Dr Hamilton, however, never bleeds in measles, not even when the lungs or head are affected; at least, he has never yet met with an instance where he has found it necessary.

"When, from the prevalence of this disorder in any particular place, (and it generally appears as an epidemic every year in large cities), there is reason to suspect that symptoms of indisposition in any individual mark its approach, the stomach and bowels should be immediately cleared out, by means of an emetic and a purgative, after which the child should be put into the warm bath. It is a vulgar prejudice, that a heated apartment is necessary during the course of the disease, for nothing adds more to the oppression, and consequently to the danger of the child. Exposure to a cold stream of air might increase the inflammatory affection in the lungs, which, in a certain degree, occurs in this complaint; but a moderate temperature of the atmosphere by which the patient is surrounded, tends to permit the eruption to come out freely, and to lessen the feverish irritation.

" While the eruption continues distinctly visible, plentiful dilution by means of barley water acidulated, or cow-milk whey, or apple tea, or any of the ordinary acescent drinks, and an open state of the bowels, are necessary. If the cough and oppression of breathing be urgent, notwithstanding this treatment, a more active purgative is to be given, and a blister is to be applied to the chest. If there be sense of tightness in the forehead, and sense of roughness in the throat, the frequent inhaling of the steams of hot water affords very immediate relief.

" Whenever the eruption begins to decline, the skin should be sponged two or three times a day with warm milk and water, and a powerful laxative should be directed every third or fourth morning. As soon as the state of the cough will permit, nourishing diet, with wine and tonics, of which a combination of myrrh and bark is the most preferable, are to be allowed. Violent or very frequent fits of coughing, with wheezing, or considerable oppression in the chest, require a succession of blisters, repeated purgatives, and a milk diet; but a short dry cough, even though accompanied with frequency of of pulse, yields to the use of tonics.

" If quick or laborious breathing, with a rapid or thready pulse, and a torpid drowsy state, with a swelled or pasty appearance of the countenance, supervene on the decline of the eruption, opiates, wine, and other cordials, with blisters and external stimulants, afford the only chance of saving life.

" To these short practical hints must be added, the unpleasant duty of pointing out the errors frequently committed in the treatment of this disease; a task on which I should never have entered, had not the experience of every year convinced me that many infants and children are lost by such errors.

" The first of these to be noticed, is the indiscriminate practice of blood-letting. Practitioners have been led to this, partly by the theoretical notion that there is danger of pneumonic inflammation, and partly by the success which attends it in grown people. But what has always appeared to me the most to be dreaded as the effect of measles in children, is the debility that follows; and, accordingly, numerous instances have fallen under my observation, where hectic fever, or dropsical or scrofulous affections were induced by bleeding. For a long time, therefore, I have been accustomed to state, in lecturing on this subject, that " I do not deny the possibility of blood-letting being necessary in the treatment of this disease, but I have never yet met with an instance where I found it so." A single case of that necessity has been reported to me by one of my brethren (Dr Erskine), whose candour and talents entitle him to every degree of confidence.

" The opinion thus expressed of the bad effects of bleeding, is supported by the high authority of Dr Parr of Exeter. In allusion to the possible propriety of that evacuation, he says, " no such instance has however occurred to us in an extensive practice, nor to those from whom we learned it, whose practice, equally long, has been more extensive." Had this flattering testimony related to a subject of mere speculation, I should not have quoted it; but when I consider the importance of the question, and the reluctance with which many most respectable practitioners have been led to relinquish the established practice of bleeding, I feel highly gratified in being able to show a coincidence which could only be the result of experience.

" The use of purgatives after the declension of the eruption, has, in these modern times, been as much condemned as bleeding. Even Dr Cullen has sanctioned this prejudice. The ancient opinion was, that purging tended to remove the dregs of the disease, which has been very properly ridiculed by Dr Cullen; for the proper effect of purgatives in such cases, is the removal of that torpor of the lymphatic system on which both dropsy and glandular swellings depend. Dr Parr asserts, that if laxatives be steadily persevered in from the beginning, the peripneumonic symptoms, which occur about the eighth or tenth day, will certainly be prevented. The most alarming case of symptomatic dropsy I ever met with, was the effect of inattention to this practice.

" It is not easy to understand the reasons why practitioners have been led to disregard the debility which always attends and follows measles, as that is the most prominent feature in the progress of the disease. The objections to wine and nourishing diet, which it is so often necessary to combat, probably arise from the supposition, that the frequency of the pulse and the cough are the effects of inflammation, when, in fact, they are occasioned by the torpor of the lymphatics. If attention be paid to all the circumstances of the disease, this will appear obvious to every unprejudiced inquirer. The aphthæ, the putrid diarrhœa, the dropsical and glandular affections, and the gangrene which is apt to take place on blistered parts, afford such unequivocal evidences of debility, that no other than a descendant of the renowned Sangrado himself could overlook them.

" An anomalous feverish disorder, resembling at first the measles in every respect, is occasionally met with. Within about twenty-four hours from the eruption having come out, the feverish symptoms are highly aggravated, attended with delirium, startings, and even convulsions; and on several parts of the skin, particularly on the face, the eruption recedes, leaving large portions of the surface of a pale yellow, with a small white blister or vesication in the middle. The eruption disappears in a day or two; and, under proper treatment, the fever soon abates."

IV.

On the Structure and Uses of the Spleen. By EVERARD HOME, Esq. F. R. S. Philosophical Transactions, Part I. 1808.

MR HOME, while investigating the structure of the stomachs of different animals, observed, that in the fourth stomach of ruminating animals; in the single stomach of others; and even in the human stomach, there is a division, more or less evident, between the cardiac and pyloric portions; that while digestion is going on, these portions are separated by means of a permanent or muscular contraction; that the food is prepared, softened, and dissolved in the cardiac portion, and the chyle separated in the pyloric.

In some animals, as in the water-rat, the separation between the cardiac and pyloric cavities is very remarkable, and their difference of structure and function abundantly evident; but, in all stomachs, this difference can be traced.

" The first instance in which this muscular contraction was observed in the human stomach, was in a woman who died in consequence of being burnt. She had been unable to take much nourishment for several days previous to her death. The stomach was found empty, and was taken out of the body at a very early period after death. It was carefully inverted to expose its internal surface, and gently distended with air."—" The contraction was so permanent, that after the stomach had been kept in water for several days, in an inverted state, and at different times distended with air, the appearance was not altogether destroyed. Since that time, I have taken every opopportunity of examining the human stomach recently after death, and find, that this contraction, in a greater or less degree, is very generally met with."

" That the food is dissolved in the cardiac portion of the human stomach, is proved by that part only being found digested after death; the instances of which are sufficiently numerous to require no addition being made to them. This could not take place, unless the solvent liquor was deposited there. Mr Hunter goes so far as to say, in his paper on the subject, ' there are few dead bodies in which the stomach, at its great end, is not, in some degree, digested.' That the chyle is not formed there; and also, that it is completely formed before the food passes through the pylorus, is proved by the result of some experiments of Mr Hunter's, made upon dogs, in the year 1760: and as they were instituted for a very different purpose, that of determining whether the gastric juice is acid or alkaline, the results were detailed without any possible bias."—" In all the dogs, the food was least dissolved, or even mixed, toward the great end of the stomach, but became more and more so towards the pylorus; and just within the pylorus, it was mixed with a whitish fluid like cream, which was also found in the duodenum." "From the result of these experiments," continues Mr Home, "as well as from the analogy of other animals, it is reasonable to believe, that the glands situated at the termination of the cuticular lining of the œsophagus, which have been described, secrete the solvent liquor, which is occasionally poured on the food, so as to be intimately mixed with it before it is removed from the cardiac portion; and the muscular contraction retains it there till that takes place. Such contraction being occasionally required in the stomach, accounts for its being more or less bent upon itself, which renders it more readily divided into two portions, by the action of the muscular fibres, at that part where the angle is formed."

We have thought it necessary to make these extracts from Mr Home's papers on the structure of the stomachs of different animals, in order that those of our readers who have not yet had an opportunity of consulting them, might the better understand the account we are to give of his observations on the structure and uses of the spleen. And, for the like reason, we shall subjoin Mr Home's general conclusions, drawn from the series of the facts and observations detailed in those papers.

"The solvent liquor is secreted from glands of a somewhat similar structure in all animals, but much larger, and more conspicuous, in some than in others."—"These glands are always situated near the orifice of the cavity, whose contents are exposed to their secretion.

"The viscid substance found on the internal membrane of all the stomachs that were examined recently after death, is reduced to that state by a secretion from the whole surface of the stomach which coagulates albumen. This appears to be proved by every part of the fourth cavity of the calf's stomach having the property of coagulating milk.

"This property, in the general secretion of the stomach, leads to an opinion, that the coagulation of fluid substances is necessary for their being acted on by the solvent liquor; and a practical observation of the late Mr Hunter, that weak stomachs can only digest solid food, is in confirmation of it.

"In converting animal and vegetable substances into chyle, the food is first intimately mixed with the general secretions of the stomach; and, after it has been acted on by them, the solvent liquor is poured upon it, by which the nutritious part is dissolved. This solution is afterwards conveyed into the pyloric portion, where it is mixed with the secretions peculiar to that cavity, and converted into chyle."—*See Philosoph. Transac. Part 2d,* 1807.

Believing, then, that the cardiac and pyloric portions of the stomach are separated from each other by a permanent or muscular contraction, and that they perform different and distinct functions during digestion, Mr Home, in the paper now before us, endeavours to show, that there is between the cardiac portion of the stomach, and the circulation of the blood, a communication through the medium of the spleen; and that the use of this organ is to carry off the fluids from the cardiac portion.

First, He observes that the fluids are chiefly found in the cardiac portion, while the contents of the pyloric are commonly of uniform consistence. It seemed, therefore, probable, that the fluids beyond what are necessary for digestion, are carried out of the stomach, without ever reaching so far as the pylorus.

Secondly, He made the following experiment. The pylorus of a dog was firmly secured by ligature; and five ounces of water, coloured with indigo, were injected into the stomach; at the end of half an hour, two ounces of nearly colourless fluid were rejected by vomiting. The dog was now killed. Though the pylorus was completely closed by the ligature, the pyloric portion of the stomach was empty, and contracted. "The cardiac portion contained about two ounces of solid contents, enveloped in a gelatinous substance, and one ounce of water with little or no colour, the indigo being completely separated from it, and spread over the surface of the internal membrane."

Two ounces of fluid had therefore escaped from the stomach in half an hour. No absorbents could be seen; but "the spleen was turgid, unusually large, and its external surface very irregular. When cut into, small cells were everywhere met with, containing a watery fluid, and occupying a considerable portion of its surface."

These cells he finds to be the glands of Malpighi, and corpuscles of Cuvier. These cells are only distinct, and seen to contain a fluid, when examined immediately after the stomach had received an unusual quantity of liquids. The fluid escapes when the cells are punctured. The cells are membranous, and have numerous arterial branches and plexus of veins ramifying on their coats.

The trunk of the splenic vein compared with that of the artery, Mr Home found to be in point of size as 5 to 1.

Mr Home repeated his first experiment, making use of an infusion of madder instead of a solution of indigo, in hopes that the colouring matter might be detected in the spleen. The result, however, did not correspond to his expectation.

At last, on the suggestion of Mr Brande, he made use of rhubarb, which speedily passes into the blood, and tinges the urine very soon after being received into the stomach, and very small portions of which can be detected by means of the caustic alkali, used as a test. "Five drops of tincture of rhubarb, added to three ounces of water, are found to strike an orange tint, when the test is added."

By means of this test, the rhubarb was detected in the urine of different persons, in 17 and 20 minutes after the tincture had been swallowed. These circumstances being ascertained, Mr Home performed the following experiment.

"On November 17th, 1807, at 35 minutes past 11 o'clock, five drachms of a mixture of tincture of rhubarb and water, in the proportion of a drachm to on ounce, were injected into the stomach of a dog, whose pylorus was secured. At 20 minutes past one, two ounces of fluid were brought up by vomiting; ten minutes afterwards, another ounce of the mixture was injected, as were 9 drachms more at half past 4 o'clock.

"The two last portions were retained; and at 8 o'clock in the evening, the dog was killed.

"On examining the parts after death, the pylorus was found to be completely secured; the stomach contained about two ounces of fluid; none of the absorbent vessels passing from its great curvature were in a distended state, so as to be rendered visible. The spleen was turgid as in the former experiment, and the urinary bladder full of urine.

"The urine, tested by the alkali, received a deeper tinge of rhubarb than the human urine, after rhubarb had been taken three hours by the mouth, and in other respects resembled it.

"When the spleen was cut into, the cells were particularly large and distinct. A portion of it was then macerated in two drachms of water for ten minutes, in a glass vial. All the parts were exposed to the water, by its being divided in all directions. The water thus impregnated, was strained off and tested by the alkali, and immediately the reddish brown colour was produced in the centre, and nowhere else; but in less than a minute it began to diffuse itself, and extended over the whole.

"A similar portion of the liver was treated in the same way, and the alkali was added to the strained liquor; but no change took place in it whatever. In this experiment, the rhubarb was detected in the juices of the spleen, as well as in the urine; and as there was no appearance of it in the liver, it could not have arrived there through the medium of the common absorbents carrying it into the thoracic duct, and afterwards into the circulation of the blood."

Mr Home here concludes, observing, "The discovery of this fact I consider to be of sufficient importance to be announced to the Society, that when it is thus made public, I may be at liberty more openly, and on a more extensive scale of experiment, to prosecute the inquiry."

V.

Suggestions for the Prevention of that insidious and destructive Foe to the British Troops in the West Indies, commonly termed the Yellow Fever; with the outline of a plan of Military Hospitals, on a principle and construction tending to introduce a more successful treatment of the sick. To which are added, other papers connected with the subject. By STEWART HENDERSON, M. D. District Staff Surgeon. Birmingham, 1808. 8vo. Pages 114.

THE author of these pages appears to be a sincere and well-meaning man, who has seen a great deal of naval and military medical practice in the service of his country, in every quarter of the world. It is clear also, that he is a disappointed man, and by no means well pleased that his services have passed unrewarded. He quarrels, of course, with the medical constitution of the army, and finds great fault with the subjection of regimental, district, and staff-surgeons, to army physicians, who have no other claim to superiority than regular education, academical degrees, and licenses, or fellowships of the Royal College, but who have not had the advantage and transcendent happiness of compounding medicines at a regimental hospital, or of bleeding, blistering, and clystering the sick soldiers. All the observations which Dr Henderson has made on the causes and progress of the yellow fever, militate against the opinion of its being a contagious disease. Blacks, Creoles, all those accustomed to the climate, enjoy almost a perfect immunity from this disease. Nurses, and other attendants on the sick, are seldom attacked by it. The principal subjects of the yellow fever, are the robust, plethoric, newly arrived Europeans. The causes are, climate and intemperance operating on the European constitution. When, by residing some time in the climate, the constitution has been reduced to the West India standard, individuals are less liable to the disease.

The plan, therefore, recommended by our author, is, to reduce the health and vigour of our troops before they are sent to the West Indies; to send only such as have passed the vigour of youth, or such as have previously served in some warm climate. But as this may be inconvenient, and sometimes not very practicable, Dr Henderson humbly proposes to put all our troops destined for the West Indies under a course of mercury, beginning its administration on entering the tropics, and continuing it until their arrival in the West Indies, *i. e.* for four weeks, when their constitutions will be charged with the mercury to such a degree, as to have produced that laxity of structure which is found in the Creoles, and in the natives of the West Indies, and those who, by a long residence, have become acclimatés, and which has been found to secure them from any dangerous attack of the dreaded yellow fever.

This general mercurialism should, of course, be conducted under the inspection of a medical officer; and, every thing considered, no one appears more fitted for this office, than he who has proposed it. Dr Henderson, therefore, very courteously volunteers his service. The plan of military hospitals is simply to allow to each patient a separate apartment, seven feet by eight, and forty feet in height. The other regulations for the prevention of disease, are such as relate to diet, cleanliness, and ventilation, and which are now very generally understood, and we believe acted upon every where.

VI.

Fragmenta de Viribus Medicamentorum Positivis, sive in Sano Corpore Humano observatis. A SAMUELE HAHNEMANN, M. D. 2 vol. 8vo. Lipsiæ, 1805. Pars Prima, Textus, pp. 269. Pars Secunda, Index, pp. 470.

THIS work enjoys a very high reputation in its native country. It professes to detail, from experiment and actual observation, the effects of some of our most powerful remedies on the body in a state of perfect health, that we may be enabled to deduce, on sound principles, the diseases in which they are indicated. To these Dr Hahnemann gives the name of *positive effects*, in contradistinction to their *relative effects* in diseases, phénomena of a mixed and complicated nature depending on their action on morbid symptoms. We perfectly agree with Dr Hahnemann in the importance of the study which he strongly recommends; but we will not allow that it has been so absolutely neglected till now, as he supposes, or represents it to be. Every monographer in the department of Materia Medica, and even most compilers of systems, have noticed the positive as well as the relative effects of the articles of which they have written, although our author is perhaps the first who has confined his attention exclusively to the former. In this point of view, we acknowledge our obligations to Dr Hahnemann, even although we shall not be able to bestow much commendation on the manner in which he has attempted to communicate the result of his labours to the public.

The articles he treats of are, Aconitum napellus, Acris tinctura, (a tincture of caustic potash, saturated with a tincture of vinegar), Arnica montana, Atropa belladonna, Laurus camphora, Lytta vesicatoria, (cantharides), Capsicum annuum, Matricaria chamomilla, Cinchona officinalis, Menispermum cocculus, Copaifera balsamum, Cuprum vitriolatum, Digitalis purpurea, Drosera rotundifolia, Hyosciamus niger, Ignatia amara, Ipecacuanha, Ledum palustre, Helleborus niger, Daphne mezereum, Strychnos nux vomica, Opium, Anemone pratensis, Rheum, Datura stramonium, Valeriana officinalis, and Veratrum album.

To the results of his own experiments with each of these articles, made chiefly upon himself, and always on persons in perfect health, he subjoins the observations which he has found incidentally recorded in the works of other writers. So far the plan and object of his publication are praiseworthy; but we sincerely regret, that, by the injudicious manner in which he has arranged, or rather neglected to arrange, his facts, he has rendered his labours as useless as can possibly be conceived. Had he given us merely his notes of a few of the most satisfactory experiments on each substance, we could have drawn our own conclusions from them. We should have had the raw material, which we might have dressed so as to suit our purpose; but our author, with infinite labour to himself, and inconceivable want of judgment, has worked and worked amongst it, till the materials, collected with much care, are rendered useless and incapable of being turned to any purpose, even in the hands of the most expert workman. He has not selected what was most valuable in his experiments; he has not arranged them according to a judicious plan; he has not given merely their results, but he has frittered them down to atoms, not even worthy of the name of *fragments.* He has jumbled together the effects he observed from the various agents, in different experiments and in different subjects, stripped of all the circumstances which might have illustrated them, without any apparent order, although, in his preface, he has defined what he means by *primary* and by *secondary* effects, and by *reliquiæ;* and has observed that these are often unlike, or rather diametrically opposite to each other; that the *reliquiæ* are only observed after excessive doses, and that small doses seldom produce any other than the primary effects; that the action of some substances consists of several paroxysms, each consisting of primary and secondary effects; and that the duration of the secondary effects is in proportion to that of the primary. But while he has neglected to preserve the circumstances under which the effects were produced, and without a knowledge of which, such as the doses, age of the subject, &c. that of the effects themselves lose half their value, he has still further reduced that value by ridiculous minuteness in enumerating these. Thus of chamomile he has accumulated no less than two hundred and seventy and one effects, many of them very complicated, as the following: "Frigiditas genarum, manuum et pedum gelida, cum frontis, colli, pectoris calore ardente, quo postea in genam dextram progresso cum rubore, manus et pedes iterum calorem justum acquirunt, pupillis contractis, non dilatabilibus; tum somnus stertorosus." p. 81.

That he believed he observed every change in his feelings which he has mentioned as effects, we do not doubt; but we very much doubt that they were effects of the medicine to which they are ascribed He might have learned from his great countryman, Reil, how inaccurate the observation of our internal sensations is, and how apt too much attention to them is to render them diseased, even to derangement. Many of the symptoms here set down as the effects of particular agents, would equally appear to arise from swallowing a glass of water, or eating a morsel of bread, or from doing any thing else, or doing nothing at all; if we were to sit down to watch and record every internal feeling which might succeed. Our internal feelings are, at best, indistinct, and are very apt to be modified and misrepresented by the imagination, especially when it is exhausted by unusual exertion. To this source, and not to the chamomile, which bears the blame of them, we would ascribe such effects as the following: "*intelligentiæ hebetudo, vis perceptionis imminuta;*" the *languor* which we find as an effect of stramonium, arnica, mezereon, aconite, hyosciamus, opium, belladonna, cinchona, veratrum, digitalis and chamomile; the *moroseness* ascribed to nux vomica, opium, capsicum, aconite, chamomile, cantharides, ledum palustre, arnica, pulsatilla, ipecacuanha, mezereon, cinchona, cocculus, belladonna, faba ignatii, camphor, pulsatilla, and nux vomica; and still more the *hallucinations* enumerated as effects of almost every article treated of. In the multitude of imaginary effects thus accumulated, the real effects are lost, although our author has indicated, as he tells us, those which he has only observed once, and, in a doubtful case, by enclosing it in ( ), and those which he has observed seldom, by printing them in italics (*minoribus literis.*)

In justification of our censure, and as a specimen of our author's manner, we quote the following, one of the shortest articles.

« DIGITALIS PURPUREA, L. (succus fol. solis calore inspiss.)

Vis sex ad septem dies durat.

Frigiditas primo digitorum, manuum, pedum, tum volae et plantae, tum totius corporis maxime artuum.

lapsus virium vitalium.

palpitatio cordis.

nisus in laborem. *

moeror lacrymatorius de frustrationibus variis. †

mortis timor.

mania taciturna, reluctans, inobediens; aufugere tentat.

pulsus dimidio tardior plurium dierum.

constrictio dolorifica pectoris suffocatoria maxime inter experrectionem e somno, considere cogens, cum sensu, quasi connatae essent omnes partes pectoris.

dolor in genubus quasi a contusione.

juncturarum dolor acutus.

languor dormituriens, sopor. ‡

borborygmi colicales per semihoram.

salivatio.

nausea.

vomitus.

purgatio.

urinae profluvium.

haemoptysis.

ophthalmia chemodes.

inflammatio glandularum meibomianarum.

pulsus durus, parvus, celer.

incontinentia alvi et urinae. §

« [OBSERVATA ALIORUM.]

H. Boerhaave, Hort. L.B. p. 308.

Exulceratio oris, faucium, oesophagi, ventriculi.

(Baylie's) Pract. Essays on Med. Subj. Lond. 1773. p. 39.

Vomitus ingens. ||

purgatio vehemens.

exulceratio oris interni, linguae, gingivarum cum salivatione. ¶

Don. Monro, in S. b. A. f. p. A. XIII. p. 2.

Inflammatio vesicae colli.

Lentin, Beob. 1774, p. 167.

Vomitus enormis.

constrictio gulae spasmodica.

singultus.

diarrhoea vehemens.

salivatio.

pulsus lentus.

Schieman, Diss. de D. P. Göt. 1786.

Objecta alieno colore visa.

salivatio.

Baker, M. Trans. III. p. 292.

Pulsus multo lentior, ad dimidium fere.

Lettsom, Mem. Med. S. Vol. II. p. 172.

Pulsus multo lentior. **

Warren, in S. b. A. f. p. A. XI. p. 1.

Nausea quasi moribundi.

Withering, in S. b. A. f. p. A. XI. p. 1.

Nausea agonizans per vices repetens. ††

vomitus longus.

purgatio.

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* Post semihoram observatum.

† Post sesquihoram observatum.

‡ Post octo horas observatum.

§ Non nisi inter reliquias observavi, dubius an primi ordinis viribus sit accensendum.

|| Quatuór horarum.

¶ Trium dierum.

** Per 24, immo 48 horas; tum vero tanto celerior, depressus tamen.

†† Quatuor saepe horas durans et vel ante vel post diuresin invalescens.

vertigo.
scotomia.
confusio visus, color objectorum vel viridis, vel luteus.
pulsus lentus.[*]
sudor frigidus.
spasmi.
syncope.

MURRAY, Ap. Med. Vol. I. p. 734.
Pruritus in glandulis.
dolor in glandulis.
cephalalgia.
visus obtenebratio.
vertigo.
inflatio faciei.
febris."

Before concluding our account of this singular publication, we must notice the INDEX, which, contrary to all usage, is nearly twice as large as the text; and, as an example of the industry with which it is extended to such an immoderate length, we shall quote the word *Hallucinatio*, already referred to.

"Hallucinatio, literas, formicarum discurrentium instar, animatas opinantis, (*Hyos.* 147, 15.)
hallucinatio, dormiturienti objecta phantasiae modo grandiora et crassiora, modo minora et graciliora justo obversantur secundum pulsus modulationem, (*Camph.* 48, 15.)
hallucinatio quasi in aere suspensus esset, aut volitaret et omnia circumverterentur, (*Op.* 214, 9.)
hallucinatio quasi oculos quater majores habeat, et corpus monstrosae magnitudinis, (*Op.* 214. 10.)
hallucinatio: insectorum variae imagines phantasiae observantes, (*Bell.* 45, 2.)
hallucinatio in visu, candelae unius flamma minor, alterius major videtur, quamquam candelae sint pares, (*Hyos.* 131, 10.)
hallucinatio: lemurum quædam ludibria phantasiae observantia, (*Bell.* 45, 2.)
hallucinatio: ignorantia utrum dormiat, an vigilet, (*Bell.* 44, 18.)
hallucinatio, quasi omnia circumverterentur, (*Op.* 214, 9.)
hallucinatio circa formam et faciem rerum obviarum, (*Hyos.* 138, 4.)
hallucinatio culmum paleae trabem putantis, (*Hyos.* 146, 9.)
hallucinatio circa magnitudinem rerum, (*Hyos.* 137, 12.) (*Op.* 214, 10.)
hallucinatio amblyopica acum hinc inde figentis, cum suere vellet, (*Hyos.* 147, 16.)
hallucinatio, quasi casura essent obvia, (*Hyos,* 143, 20. 146, 9.)
hallucinatio de domicilio, (*Verat.* 255, 2.)
hallucinatio sibi fingentis, se nucleos avi dispergere, pavonem abigere, (*Hyos.* 147, 8.)
hallucinatio fornacem amplectentis loco arboris scandendae, (*Hyos.* 147, 10.)
hallucinatio, voces absentium exaudire opinantis, (*Cham.* 75, 9.)"

After these extracts, we need scarcely say that we have never met with any instance in which so much labour and attention, exerted in attaining so useful an object, have been so completely frustrated by want of judgment and discrimination.

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[*] Triginta quinque adeo ictibus in minuto.

PART III.

MEDICAL INTELLIGENCE.

Report of Diseases treated at the PUBLIC DISPENSARY, *(near Carey-Street), London, from Feb. 28th to May 31st 1809.*

ACUTE DISEASES.

	No. of Cases.
Quotidiana	4
Tertiana	3
Quartana	1
Synochus	16
Febris infantum	3
Cynanche tonsillaris	7
——— parotidæa	1
Variola	2
Varicella	2
Scarlatina anginosa	18
Urticaria febrilis	6
Erysipelas	1
Ophthalmia	1
Catarrhus	106
Pleuritis	4

	No. of Cases.
Peripneumonia	14
——— notha	3
Pertussis	5
Hepatitis	2
Enteritis	2
Peritonitis	1
Abscessus hypochondrii	1
Dysenteria	11
Rheumatismus acutus	11
Arthritis rheumatica	5
Hydrocephalus acutus	1
Dentitio	1
Abortus	1
Epistaxis	2

CHRONIC DISEASES.

	No. of Cases.
Cephalæa	20
Vertigo	5
Hemicrania intermittens	2
Dyspepsia	25
Gastrodynia	6
Pyrosis	1
Vomitus biliosus	1
Icterus	3
Enterodynia	4
Diarrhœa	9
Tabes mesenterica	1
Marasmus	4
Colica pictonum	5
Constipatio	2
Tænia	4
Ascarides	4

	No. of Cases.
Hæmorrhois	2
Hæmatemesis	1
Hæmaturia	1
Dysuria	4
Ischuria	1
Enuresis	2
Nephralgia	4
Hysteralgia	2
Leucorrhœa	15
Menorrhagia	13
Amenorrhœa	9
Hysteria	1
Epilepsia	4
Spasmus maxillæ clonicus	1
Paralysis faciei	1
Hemiplegia	3

Chronic Diseases continued.

	No. of Cases.		No. of Cases.
Tremor paralyt.	1	Anasarca	10
Asthma	4	Hydrops tot. corporis	2
Catarrhus chronicus	48	Aneurysma aortæ	1
Phthisis	23	Phthiriasis	1
Hæmoptysis	11	Psoriasis	5
Rheumatismus chronicus	24	Lepra	3
Lumbago et sciatica	8	Scrophulus albus	1
Asthenia	30	Erythema	4
Pleurodyne	3	Scabies	6
Hectica nutricum	2	Porrigo	1
Ascites	1	Impetigo	8

During the months of March and April the weather was almost uniformly cold, with a prevalence of easterly winds, and frequent rains. At the beginning of April the cold was unusually severe, and snow fell on several successive days; and on the 20th and 21st of that month the fall of snow was very great. The second week in May was hot and dry; but a severe thunder-storm occurred on the 19th; since which time the temperature has been again low, with occasional rains, and brisk wind.

In consequence of the severe and blighting season, just described, the number of pulmonary and rheumatic disorders has been extremely great; and they still continue, at this late period of the spring, the predominant complaints. Sporadic cases of dysentery have likewise continued to occur; and seven of the eleven instances, included in the preceding list, were accompanied by considerable discharges of blood from the bowels.

The scarlet fever has been prevalent among children, nearly to the same extent, and with the same moderate symptoms, as mentioned in the last report: but the measles and small-pox, more especially the former, appear to have declined considerably. Intermittents, in all their forms, have been frequent, but less anomalous in their symptoms, and less obstinate in resisting the operation of the usual remedies, than in the winter. Some of the cases of simple fever put on somewhat of the remittent type, doubtless in consequence of the prevailing humidity of the season; but the symptoms were generally mild, except that, in one or two instances, the afternoon exacerbation was accompanied by delirium.

The case of chronic spasm of the lower jaw, which occurred in a delicate girl, of eight years of age, affords a striking example of the connexion of local disorder of the muscular and nervous system with derangement of the alimentary canal, as illustrated by Dr Hamilton and Mr Abernethy. The disorder consisted of a constant involuntary opening and shutting of the mouth, nearly as if in the act of mastication, which had continued in a greater or less degree during several days, and was accompanied by a languid and spiritless condition of the body, some tension of the epigastrium, irregularity of the bowels, and a pale countenance. A single purgative, containing three grains of calomel, removed the inordinate action of the maxillary muscles; and in a few days the healthy complexion and spirits were restored, under the use of a decoction of cascarilla.

The two cases which, from the want of a better name, I have called *Hemicrania intermittens*, were instances of what is popularly termed *Megrim*, [*] to which an allusion was made in the last Report. This very painful affection, although not uncommon, has seldom been mentioned by medical writers, [†] or has been confounded with the tic douloureux. It consists of a pain near the inner angle of the orbit, beginning in the point of the supra-orbital foramen, and extending a little way on that side of the nose, affecting also the eye, which becomes red, and more sensible to light during the paroxysm. The pain is very acute, and each pulsation of the supra-orbital twig of the artery is painfully felt. The seat of the pain may be generally covered with the point of the finger, and pressure gives momentary relief, although the integuments become tender during the paroxysm, and remain so, in some degree, during the intermission. When the disorder has continued several days, the skin of all that side of the forehead, which is supplied by the supra-orbital nerve, has become tender to the touch. After a duration of two or three hours, sometimes much longer, the pain diminishes, and soon ceases: but it returns again, sometimes most exactly, at the same hour on the succeeding day. The most usual period of the paroxysm is in the morning, after breakfast; sometimes we have observed it in the evening, after dinner. Dr Darwin says, the periods sometimes correspond with alternate lunar or solar days, like tertian agues; at other times they observe the monthly lunation, and seem to be induced by the debility which attends some cases are put down, in which cough, spitting, and quick pulse occurred, without the symptoms of hectic fever being distinctly marked.

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[*] This term is probably corrupted from *hemicrania*, through the medium of the French *migraine;* just as we have the word *quinsy*, (originally *quinansy*, Fr. *esquinancie)* from *cynanche*.

[†] The generic character of hemicrania, as given by Sauvage, accords accurately with the phenomena of the complaint; but none of his species comprehend it. "Est morbus cujus præcipium symptoma dolor est in alterutro capitis latere potissimum ad tempora, frontem, juxta oculos, isque vehemens, sæpe periodicus." Nosol. Meth. Class. vii. Gen. 13.

The generic title *Febris* would perhaps be the most convenient to comprehend all the cases of synochus and febris infantum, because a large proportion of these febrile diseases occurred in children and young people, and not one of them showed the usual symptoms of typhus. The absence of typhus fever is the most remarkable circumstance in the list of diseases in one whole year; and the medical report of former years, since the first establishment of the Dispensary, would show almost an equal scarcity of that peculiar form of disease. The rare occurrence of continued fevers, and indeed the few instances of any contagious disorder during the last year, not only points out some peculiarity in the season, but must be attributed in a great measure to the cleanly and orderly habits of the poor of Norwich. The manufactories in this city are carried on in private houses; the work is done in the chambers and dwelling-houses of the workmen; consequently the rooms are generally large, for the sake of admitting one or two looms; and the air is prevented from being loaded with noxious effluvia by ventilation, and by frequent washing. The difference in the number and fatality of contagious fevers in this place, and in other manufacturing towns, forms a strong argument in favour of the comparative healthiness of old cities, and old fashioned habits of living and labour.

Ulceratio gingivæ et faucium. This term is applied to cases of ulcerations in the mouth and gums, which are very common among children, and sometimes very severe. Ulcers begin first upon the gums, and upon the inside of the cheek, unattended with fever, or any other disorder of the constitution; their appearance is affected by the secreting surface which they attack; and they spread in some instances to an alarming extent. Astringent gargles, and tonic medicines, have succeeded best in curing them. Two of these cases resembled the pseudo-syphilitic diseases, described by Mr Abernethy: ulcerated patches, surrounded by erysipelatous inflammation, healing in one spot of the throat, and then breaking out in another, and at last get well without mercury. A more particular account of these will be given at some future opportunity.

WARNER WRIGHT, } *Physicians to the*
HENRY REEVE, } *Norwich Dispensary.*

Extract of a Letter from Mr ALLAN BURNS, *containing an Account of an Obliteration of part of the External Iliac Artery.*

WITHIN these few days, I met with a curious occurrence, while dissecting the thigh of a scrofulous male, whose limb had long before been amputated just above the knee. The arteries were injected with wax previous to the examination of the member. The common iliac artery was large, but the external iliac was very small, and, on tracing it down to Poupart's ligament, I found it there perfectly solid. The canal of the vessel began to be obliterated just after the origin of the art. circumflexa ilii, and the artery continued impervious for about eight inches down the thigh. The circulation was carried on by the anastomosis of the external circumflex artery of the profunda, with the arteria glutea, and also by a branch of the superficial femoral artery, which was enlarged, and which freely communicated with the gluteal artery. The obliterated part of the artery was just below where the pad of the tourniquet would have rested; but how this obliteration was produced, it is not easy to determine. It is most certain that no cicatrix was seen in the integuments. I once before met with a similar occurrence in the humoral artery.

Glasgow, 3*d December* 1808.

In One Volume octavo.—Preparing for the press, and in a few months will be published, a work on the Anatomy and Diseases of the Arteries. By ALLAN BURNS, Lecturer on Anatomy, Glasgow.

This work will be divided into two parts. The first part will contain an account of the structure and actions of the arteries; a general history of the diseases to which the coats of the vessels are subject; including a view of the nature and pathology of aneurism, and the general mode of cure of that disease. The second part will be devoted to the description of the regular origin, distribution, and relative position of the different arteries. In this part of the work it is intended, after the history of each branch, to point out the deviations from its usual course, and the operations in the performance of which it is concerned; and likewise to explain, from a review of the relation of the vessels, nerves, and muscles, the reasons rendering one mode of operating preferable to another.

To be published speedily, second edition, A Treatise on Cheltenham Waters, and Bilious Diseases; with a plan of the Town of Cheltenham, and situation of the Mineral Wells. By THOMAS JAMIESON, M. D. of the College of Physicians of London and Edinburgh, and Resident Physician at Cheltenham.

Prize Question, proposed by the Harveian Society of Edinburgh, for the year 1810.

In the year 1777, the Harveian Society of Edinburgh, adopted the plan of proposing Prize Questions, with the view of promoting experimental inquiry among the students of Medicine at the university. During several years, this competition was attended with the best effects; and some students gained no inconsiderable reputation, as the reward of their industry and genius. But for some time past, in consequence of particular circumstances, this plan has been interrupted. The Society, however, has again resolved to resume it, by proposing, as the subject of competition for next year,

An Experimental Investigation of the Cause of the White Colour of Chyle and Milk,—the Red Colour of Blood,—and the Yellow, Green, and Black Colour of Bile.

Dissertations on this subject must be transmitted to Dr Duncan senior, physician in Edinburgh, principal secretary to the Society, on or before the 1st of January 1810. Each dissertation must be accompanied with a sealed letter, containing the name and address of the author, and marked on the back with any particular motto. The same motto must also be prefixed to the dissertation to which the letter belongs.

The only prize given by the Society to the successful candidate, is a copy of the quarto edition of Dr Harvey's works, published by the College of Physicians of London. But he is left at liberty to employ his dissertation afterwards, in any way he may think proper. And accordingly, different dissertations, presented to the Harveian Society, have, in consequence of publication, been productive of considerable honour and emolument to the authors.

The Royal Medical Society of Edinburgh have proposed a prize of a set of books, or a medal of Five Guineas value, for the best experimental essay on the following question.

"Whether are the phenomena produced in the decomposition of bodies by Galvanism, capable of being accounted for on the usual principles of chemical attraction; or do they seem to establish the theory, that chemical phenomena depend entirely on the electrical energies of the particles of matter?"

All members, honorary, extraordinary, and ordinary, are alone invited as candidates.

The dissertations must be written in English or French, and must be sent to the secretary of the Society, before the 1st of December 1810.

To each dissertation a motto shall be prefixed, which is also to be written on the outside of a sealed packet, containing the name and address of the author. No essay will be received with the author's name *affixed*; and all, except the successful one, will be returned, if desired, with the sealed packet unopened.

Medical Hall, Edinburgh,
27th May 1809.

Regulations to be observed by Candidates, previous to their being taken upon trials for obtaining Diplomas from the Royal College of Surgeons, Edinburgh.

IN enacting and publishing the following Regulations, respecting the course of study to be followed by Candidates for Surgical Diplomas, the Royal College of Surgeons of Edinburgh are anxious to evince to the public how desirous they are of adopting, from time to time, such measures as appear to them to be calculated to improve the education of those who are hereafter to have the care of the health of their fellow-citizens. They are, at the same time, fully aware how much the success and extent of the education of candidates must necessarily depend on those who have the direction of their early studies. Under this conviction, the College cannot omit the opportunity which now offers of impressing it on the minds of parents and others, how necessary it must be for the interest of the public, and of what importance for the future comfort and respectability of the individual, that every one who applies to the study of Surgery should, in a competent degree, have obtained the benefit of a liberal education.

The Royal College of Surgeons wish farther to remind the public, that the profession of Surgery is a practical art, which cannot be acquired without a long continued and personal intercourse with the sick; they have to regret, therefore, the very general neglect of that practical education, which can best, perhaps only, be obtained by serving an apprenticeship in early youth to a regular practitioner, under whose inspection young men have frequent opportunities of being conversant with the sick, and of assisting in preparing and applying the means used for their recovery.

The College have had much satisfaction in observing, for a series of years, the gradually increasing knowledge and acquirements of those who present themselves to the College for Surgical Diplomas; and they are inclined to hope that medical practitioners in every part of the country will be disposed to concur with the views of the College, by using all their endeavours to recommend the study of the Latin language, and of the elementary parts of mathematics, to the young men, who, in being placed under their care, are destined to follow the practice of Surgery.

The Royal College are inclined to hope that the observance of the Regulations now enacted, will prevent any candidate from offering himself for examination, until he has made himself acquainted with the principles of his profession; and, on this account, they have now given orders to have them published, that the parents and relatives of all young men who are educating to the profession of Surgery, may be apprised of the extent of the course of study requisite to be pursued, and enabled in some measure to direct the education of their young friends according to a systematic plan; and likewise for the satisfaction of the public at large, who, from a perusal of the Regulations, will be able to determine the degree of confidence which they can with prudence repose in the professional attainments of a practitioner, who must possess all the qualifications which an observance of these Regulations necessarily implies.

Course of Study.

Candidates for Surgical Diplomas must have followed their studies in some university of reputation, or under teachers who are members of the Colleges of Physicians or Surgeons of London, Dublin, or Edinburgh.

Every candidate who has not served an apprenticeship of three or more years to a regular practitioner, must produce certificates of his having attended the instructions of the above-designed teachers, for a period of three or more winter sessions, in the course of which time he must have attended lectures on Anatomy, Chemistry, Institutions or Theory of Medicine, Practice of Medicine, Principles and Practice of Surgery, Clinical Surgery, Midwifery, Materia Medica.

The candidate must likewise have attended a Public Hospital for at least one year.

As young gentlemen who are apprentices to regular practitioners possess many opportunities of improvement, from which other students are precluded, the Royal

College have abridged to them the duration and extent of the academical studies requisite to obtain a diploma; and have therefore enacted, that

Every candidate who has served an apprenticeship to a regular practitioner, of three or more years, must produce certificates of his having attended the instructions of the above designed teachers, for a period of two or more winter sessions, during which time he must have attended lectures on Anatomy, Chemistry, Institutions or Theory of Medicine, Practice of Medicine, Principles and Practice of Surgery, Clinical Surgery, Midwifery.

The candidate must likewise have attended a Public Hospital for at least one year.

Regulations.

The days of examination are the first and third Tuesdays of every month.

No candidate will be admitted to examination before the third Tuesday of March, of his last year's course of study.

Applications for examination must be made to the President of the Royal College, two days previous to the day of examination.

The fees payable to the funds of the College, must be lodged in the hands of the Treasurer before examination.

The fees will be returned to unsuccessful candidates, whose names will be concealed.

Unsuccessful candidates will be remitted to their studies, for a period to be determined by the judgment of the examinators.

Gentlemen who have received a diploma may, on applying to the President, receive a certificate of their being qualified to serve as assistant-surgeon in the royal navy.

The President, if he judges it proper, can order a meeting on any day, at the request of a candidate; but, in that case, every candidate so requesting must pay two guineas in addition to the customary fees; and this money is not returned to him in the event of his being rejected.

Apprentices of Fellows of the Royal College pay no fees to its funds for diplomas.

Fees paid to the Funds of the Royal College.—For a diploma, the sum of one hundred merks Scots, or five pounds eleven shillings one penny $\frac{1}{3}$d. Sterling.

Fees payable to the Clerk.—For a diploma to a country student or apprentice, ten shillings and sixpence Sterling.

Fees payable to the Officer.—For a diploma, three shillings.

By authority of the Royal College,

ANDREW INGLIS, *President.*

ERRATA.—Page 153, line 8 from the bottom, *for* contracting, *read* counteracting—p. 156, line 15, *for* heart, *read* breast—p. 165, line 20, *for* " Neither the hot nor the cold bath were ever tried, though, from the success with which Dr Currie employed *it* in idiopathic tetanus, I should have chosen it in preference," *read* " Neither the hot nor the cold bath were ever tried, though, from the success with which Dr Currie employed *the latter*, I should have chosen it in preference *to the affusion.*"

Mr Goodlad's communication has been received, as well as reviews of the works of Dr Arnold and Mr Haslam.

⁂ Communications may be addressed to the Editors, to the care of Messrs CONSTABLE & Co. Edinburgh.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. OCTOBER, 1809.

PART I.

ORIGINAL COMMUNICATIONS.

I.

A Case of Death, produced by Arsenic. By John Yelloly, M. D. Physician to the London Hospital.

I am induced, by the remarks made in the last Number of the Edinburgh Medical and Surgical Journal, on the necessity of attention to individual cases of death by poison, to transmit to the Editors the following history and dissection.

On the evening of the 21st of April last, I was requested to see the apprentice of a goldsmith, in Bell Alley, Lombard Street, who was reported to have taken some arsenic the night before. I went immediately; but, on my arrival, found that he had just expired. He had been attended by Mr Unwin, apothecary, of Widegate, St Bishopsgate; and from him, and the individuals of the family in which the young man lived, I obtained the following particulars.

He was about sixteen years of age; and informed Mr Unwin, that, in consequence of a few words with his master the day before, he had resolved to destroy himself; and that, at about ten o'clock the same evening, he drank off some gruel, in which he had dissolved in a saucepan, over the fire, about a pennyweight of the white oxide of arsenic, of which there was generally some kept in the shop for the purposes of the trade.[*]

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[*] Arſenic, I am informed, is uſed in making a ſolder for inferior deſcriptions of gold work, called Arſenic Solder.

On examining the saucepan, Mr Unwin found in it the remains of the gruel, and about twenty-six grains of the white oxide of arsenic, in rough powder, though the lad told him that he had only employed about a pennyweight, or 24 grains.[*]

His master's daughter observed him, in the course of the evening, throw something from a paper into a saucepan of gruel, and simmer it for a little time upon the fire. She and the maid-servant saw him drink off the gruel; and the servant, having taken a teaspoonful of it by his desire, was made very sick and uncomfortable the whole night. With regard to the quantity of arsenic which had been taken, it was supposed, from the diminution which was observed in a small packet of it, bought a short time before, that it must have been about half an ounce. But this is only conjecture. At any rate, the lad must have been much mistaken in the quantity which he imagined he had used, as there was more found in the remains of the gruel than he stated that he had put into it.

Soon after the gruel was taken, thus charged with arsenic, he was attacked with vomiting, and, in a short time subsequent to this, with purging; both of which continued with violence the whole of the night. He drank large quantities of both warm and cold water, but did not complain of any pain in the stomach or bowels, nor did it appear to the family that he suffered any. About four hours after taking the arsenic, he complained of a severe cramp in one of his legs. He was much distressed with a sensation of cold during the night, which made it necessary for him to have a great quantity of bed-clothes.

Mr Unwin saw him, for the first time, at half past ten on the morning after the arsenic was taken; his pulse was then not more than 40, and very languid. His lower extremities were cold, stiff, and without the power of motion; but, by the application of warmth, the stiffness was in some measure diminished, and the power of motion in a small degree restored. Mr Unwin kept up the vomiting, by means of emetics and copious diluents; but the purging ceased about twelve o'clock, and the means employed to bring it on again were without effect.

At half past three, the extremities were cold, and he seemed unable to move them. He complained of great heat in his tongue; was very restless; and his pulse was rather more frequent than in the morning. The vomiting at this time had ceased. At about five, he appeared to be sinking fast; his pulse was as low as 30, and very languid; the upper, as well as the lower extremities, were cold and motionless; the restlessness was increased, and he expressed a great wish that sleep should be procured. He died a little before seven, which was nearly twenty-one hours after taking the arsenic. He retained the complete possession of his faculties till the very last, and never discovered any particular irritability of mind, except once or twice, when he could not get drink at the moment he wished for it. He was, at no time, in any degree convulsed, and showed no appearance of delirium. Mr Unwin did not remark any tenderness of the abdomen, and never heard him express the existence of pain, either in the stomach or bowels. Indeed, when repeatedly questioned by him upon this point, the young man said that he felt no pain anywhere.

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[*] As a proof that there was no miſtake with regard to the nature of the powder found in the remains of the gruel, it may be proper to mention, that when made into a ſolution with carbonate of potaſh, it afforded a lively green precipitate on the addition of a ſolution of ſulphate of copper.

Mr Unwin did not particularly attend to the sensibility of the extremities; but it was observed by him, that the changes of position which the young man was continually making, a few hours before his death, were effected principally by the trunk of his body, the extremities appearing inert.

The body was opened on the evening of Sunday the 23d of April, about forty-nine hours after his death, by Mr Morris, one of the house pupils of the London Hospital, in the presence of Mr Unwin and myself. It exhibited no particular signs of putridity; there was a slight lividness in the inside of the thighs, but nowhere else. On opening the abdomen, the stomach was found to be very large, but with no external mark of inflammation. The whole course of the small intestines, to within three inches of the caput coli, was very much inflamed, and the duodenum and jejunum were a good deal thickened. In some places, the external surface was of a florid red; but it was, for the most part, of a purple hue, and with occasional patches of coagulable lymph. That part of the ilium which was free from inflammation (which was, as I have already said, a space of about three inches), possessed its natural appearance, as did the whole of the cæcum, colon, and rectum. The colon and rectum, through their whole extent were smaller than ordinary.

The inner membrane of the stomach, particularly at its lesser curvature, and in the neighbourhood of the pylorus, was very much inflamed, and there was in it frequent appearances of extravasated points of blood. In two or three circular spots, of the size of a shilling, the membrane was abraded; and, in one or two places, there was a circular thickening, (as if by an effusion of coagulable lymph*), with some extravasated points of blood upon

it.

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* Dr Baillie mentions having seen a thin layer of coagulable lymph, thrown out

it. The stomach contained a considerable portion of a yellowish white fluid, with some castor oil floating upon it, which had been given in the course of the day of his death. In this fluid were found a grain of shot, a few small bits of carbonaceous matter, and a very small portion of a heavy, white, coarse powder, resembling the white oxide of arsenic.

The inflammation did not extend to the œsophagus. Portions of the small intestines were examined at several places, through their extent. The mucous membrane was everywhere found in a high state of inflammation, and with occasional appearances of extravasation in it. In the mucous membrane of the large intestines, the inflammation was much less; but it extended, in some degree, to the extremity of the rectum. There was no portion of arsenic or fæces found in any part of the alimentary canal.

The cohesion of the stomach and intestines seemed to be as great as in ordinary circumstances.

The absence of pain is a circumstance in which this case seems to differ from any which I have seen recorded; and I was therefore extremely particular in ascertaining this fact, not only from Mr Unwin, but from every individual of the family who saw the young man previous to Mr Unwin's being called in. The accounts were uniform and consistent; and there is the less reason to suppose any misconception upon this point, because the excrutiating pain which generally follows the exhibition of a large quantity of arsenic, could hardly, if it did exist, be concealed by the sufferer, or overlooked by the attendants.

It is rather unfortunate, that the precise quantity of the arsenic which was taken, in this case, is not known. The young man's own account, as above stated, was evidently far from the truth; while the diminution which was observed in the packet, may be considered to afford some grounds for believing that the quantity taken was very large.

To what extent the effects of arsenic are modified according to its quantity, is a circumstance concerning which there is little evidence; for very few histories of persons poisoned by that substance have been detailed. That the sensorium is affected by its influence, is rendered probable, by the state of the pulse and of the extremities, in the case which I have now communicated. How far this affection of the sensorium is able to account for the absence of pain, can be at present only matter of speculation.

The effect of very long continued vomiting and purging, and of

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but upon a portion of the inner ſurface of the stomach, in a caſe of death by arsenic. —BAILLIE's Morbid Anatomy, p. 138.

of the use of a large quantity of diluents, would be to remove the poison which was swallowed. It may therefore be considered as probable, that the agency of such a substance may be sufficient to destroy life, though a very small portion, or none of it, should be retained.

The prominent effect of arsenic, taken into the stomach, is the production of inflammation; but this effect, like inflammation from any other cause, will doubtless continue after the cause producing it has been removed. There is, therefore, some reason to suppose, that the means generally employed in the treatment of such persons as have taken arsenic, whether they are directed to decompose, or to carry off this substance, are deficient, inasmuch as the inflammation actually produced by it is overlooked. The only remedy on which we can depend for the cure of inflammation of the stomach or bowels, is copious blood-letting; and it may therefore be a question how far this, in conjunction with the other means which may be thought necessary, should be early had recourse to, in cases where arsenic has been swallowed. Analogy seems to indicate its employment; but its particular fitness can only be determined by experience.

Finsbury Square, June 5th, 1809.

II.

Account of the Mortality which took place in 1807 *among the Troops at Wallajahbad.* By a Surgeon on the Madras Establishment.

In communicating to you some account of the great mortality which has lately taken place in his Majesty's —— regiment at this station, I have to observe, that dysentery was the disease from which this chiefly happened; and as the like occurrence is commonly spoken of on the deportation of troops, particularly in tropical countries, it becomes an object to ascertain any part of the probably many causes which are found to be thus constant and uniform in their operation and effect.

I should here premise, that the men of the regiment are mostly young, the greater part of them from 18 to 30 years of age: this will explain, in some measure, the very aggravated form of the disease we have had to combat, arising, generally speaking, from a habit highly disposed to inflammation, and accompanied with so great a degree of irritation, as has, in too many instances, baffled our best efforts to subdue it.

The disease I would refer to an existing predisposition thereto in the European constitution, which with exposure to the sun, transitions from heat to cold, and other changes which induce a suddenly checked perspiration; irregularity in, or change of diet, or intoxication from the common arrack of the bazars, will, in most instances, be found the most obvious causes of the disease. I do not believe the disease was in any instance propagated by contagion, but altogether generated and kept up, from the men, women, and children of the regiment being exposed to some of the above causes; for I ought to state, that the women and children were equally victims to the disease, which, in many of them, went through a course as rapid and acute, as with the strongest men of the corps; and, in some of the children, I am satisfied, the sun's influence alone brought on the complaint.

From the increasing sickness which prevailed in the regiment during the month of March, it had been recommended that the men should be confined to their barracks during the heat of the day. This measure was put in force on the 31st March, in which month the admissions had become unusually numerous, nearly all of them dysentery, attended with great constitutional irritation, so that it was common to receive into the hospital from 10 to 15 such cases daily.

The confinement of the men to their quarters was from 8 A. M. to 4 P. M. and is still continued. This was attended with such marked effects, that in about a fortnight after, the admissions not only became fewer, but it was also observable, that the disease became gradually milder, and, from that period, took on more and more the character of diarrhœa. Now, as there was not, during that time, any alteration in the diet of the men, or deviation from the established discipline of the regiment, which appears to be guided by that rule best calculated to preserve health, I am disposed to attribute this mitigation of symptoms in the disease to the confinement of the men to quarters; and this regulation having afforded so much benefit and importance to the soldiers' welfare, I trust it may never be overlooked on the first arrival of troops from Europe; for I am persuaded that had the plan been adopted on the arrival of the —— regiment at this station, much of that distress and suffering, in the first place, would have been avoided, and many subsequent deaths prevented.

It might be supposed that a disease, so fatal in its tendency, could never originate without previously occasioning some clear and well-marked constitutional indisposition; but this is by no means uniformly the case; for at times the attacks are so sudden, that the men are on guard, at parade, or in bed, when taken ill, and then the first complaint is of having passed a quantity of fluid blood, unattended with either griping or tenesmus. Most frequently, however, the disease comes on in the shape of common diarrhœa; the man, while the complaint continues so, apprehending nothing, seldom reports himself till he sees an appearance of blood, or blood and slime with his stools; and there is in this stage commonly a dull heavy weight rather than pain in the hypogastric region, sometimes with griping; but when this happens on a more full discharge of blood, the griping very often ceases entirely, leaving now and then tenesmus and straining, which continues more or less troublesome throughout the disease. At times, the attack is preceded by fever, headach, nausea, and retching, with a hot skin, a small, irritable, quick, and sometimes full pulse, thick furred tongue, often tinged of a brown colour, but the tongue assumes now and then a red, dry and harsh appearance. To these symptoms are added frequent dejections of little besides pure blood, sometimes mixed with slimy matter, or froth, with severe gripes and tenesmus at times. A dejection of mind is often observable; but, in those cases where the greatest irritation prevails, the patient is often in a high degree of excitement, with the greatest alarm and apprehension for himself. In these more violent cases, the cause of the disease is not of long duration, and frequently so unmanageable, that nothing but the warm bath, and large repeated doses of opium, procure the patient any respite from agony.

Having thus given a short history of the disease, as it appeared in the regiment, a more minute relation would be uninteresting, and could not come within the meaning of this communication. From the above it will appear evident, that the immediate indications in the cure of the disease are the diminution or removal of the causes of irritation, and withdrawing the determination of blood from the intestines. This leads directly to the use of local and general bleedings, purgatives, opiates, warm-baths, blisters, &c. and to the whole of that class of medicines whose operation determines to the surface. In estimating the different modes of treatment which have been found the most efficacious in the cure, I must declare my decided preference in favour of the new practice, which, though not always successful, is so in a very great proportion of the many in which it is employed.

In the exhibition of the medicine, 2½ drachms of the tincture, or from ten to twelve grains of solid opium, will, in general be found a proper quantity for one dose. I have not seen the medicine given beyond fifteen grains of common extract, though some exceed it. The operation of the opium appears twofold: diminishing pain and irritation, and determining to the surface. The first effect may, in every case, be observed; but the second and most important is less certainly produced, though it is in this way chiefly I believe that the disease is carried off.

In the combination of the ipecacuan with the opium, this end therefore should be principally held in view, and the quantity should be such as to produce nausea; for this action on the stomach seldom fails to produce increase of insensible perspiration, which, once caused, is supported by the diaphoretic power of opium. But where there is a burning skin, great thirst, small quick pulse, parched tongue, with other symptoms of general irritation, the warm-bath has the best effect, and should not be omitted. During the sweating, there will be little occasion to repeat the medicine oftener than once in twenty-four hours, as the flux, griping, or tenesmus, seldom return while the perspiration continues; but a recurrence of these symptoms ought to be the signal for repeating the medicine, though in this the practitioner must be guided by circumstances only. During the sweating stage, the patient is supported by a little warm *conjee* and wine frequently administered; for the exhaustion he undergoes during this period is very great indeed. The continuance of the diaphoresis from one dose of the medicine, admits of much variety. In some it does not take place at all; at other times, the patient remains under the sweating operation of the opium after a lapse of more than twenty-four hours. When the dose fails of determining to the skin, the head is more frequently affected by it than when sweating is produced. A frequent effect of opium is strangury; but this either goes off spontaneously, or by fomentations and the warm-bath. In no instance have I seen more than ordinary sleep produced, and sometimes the patient complains of watchfulness. There often occur eruptions about the lips of those under the opium treatment; and a less frequent occurrence is large pustules, and sometimes bags of a rather thick and yellow-coloured fluid, hanging to the neck and breast like blisters. This appearance is commonly met with in those cases where more than ordinary sweating has been produced, and seems to be caused by a solution of the sebaceous matter of the skin in the common perspirable fluid, rendering it too glutinous to escape.

In all stages of the disease, where there is any thing like an accession of fever, or irritation, a blister applied to the belly proves of the greatest service, but it ought to be large enough to cover at once a quarter of the whole abdomen. Fomentations also are of the first utility, and injections, both anodyne and emollient, are constantly required. Tenesmus is more relieved by fomentations to the fundament than by any other means.

The disease has been treated by antimonials, ipecacuan, and other remedies in ordinary use in dysentery, but with far less success than when the opium was employed. Mercurial frictions and calomel were, in many cases, extensively employed; but in the acute stage, except where a purgative was indicated, (and that often consisted of a few grains of calomel), I cannot say that I ever saw any advantage from their use.

Little or no benefit, therefore, I am induced to think, will ever be found to arise from the mercurial practice, in that stage of dysentery, when the disease is attended with fever, and other symptoms of irritation; but when these have been removed by other means, mercury then becomes the most powerful of our remedies in finally subduing the remains of any kind of visceral inflammation.

It is said, that the opium practice is less fortunate in robust men, and of a sanguineous temperament. Though I have seen some marked exceptions to this opinion, my experience does not as yet warrant me in saying the rule may not generally obtain.

As to bleeding in such cases, as a preparatory step, I cannot say much from actual observation; but from what I have seen, I would not be the more disposed to persevere in the practice. Indeed, I have only met with one instance where I should again hesitate to reject blood-letting, and though that case terminated fatally, I would still decline phlebotomy; for the rapid sinking and depression which take place, joined to the loose and inadhesive texture of the blood, strongly forbid that evacuation; but in more dense climates the practice may be beneficial.

When such a degree of inflammatory diathesis prevails, as renders the exhibition of opium unsafe, I would endeavour its removal by the use of the warm-bath, antimonials, &c. These cause a more general relaxation of the system, a more perfect revulsion from the intestines to the surface, at the same time inducing less debility than bleeding. A fixed pain in the abdomen, where this evacuation is more particularly called for, has at no period characterized our disease. In a few of the acute cases, the disease was translated to the parotid glands, which inflamed, and in some suppurated, and recovery, except in one instance, followed. The men had then been confined to their rooms some days, and the disease was taking on a somewhat milder form. In one case, the translation was to the knee-joint, where the most severe pain was complained of, attended with a high degree of fever and irritation, which alone seemed to be the cause of death; for the dysenteric affection did not appear to me to occasion it. The body was opened; the lower portion of the ilium was slightly inflamed, the colon also, and internally numerous small points, scarcely amounting to ulcerations, were scattered in many places through the course of the gut. The rectum was still less affected, and the other viscera were sound.

From an examination of almost all the men who have died of dysentery in the regiment, it can hardly be said that the disease is connected with visceral derangement; for in only one case was the liver found suppurated; nor have the other abdominal viscera, in any case which I have seen, been engaged in the complaint; but where the habits of life of the soldier cooperate with climate, too often productive of visceral obstruction, this unconnected state of the disease cannot be of long duration, when, of course, the present plan of treatment must be abandoned, and that by mercury principally trusted to for relief.

Wallajahbad, June, 1807.

III.

Account of the Diseases of the Sick landed at Plymouth from Corunna. By Richard Hooper, Member of the Royal College of Surgeons, London, late Assistant Surgeon at Old Cumberland, and Mill Bay Hospital, and of his Majesty's Ship Mercury, &c.

The public mind having been much engaged with numerous reports as to the sickness that prevailed, and deaths that occurred, in the army lately arrived in this country from Spain, I am induced to offer you an account of that part of the sick which was landed at Plymouth, that, if you think it deserving notice, the public may be informed through the medium of your valuable and widely circulated Journal; having myself been an attendant on them, and favoured by the other medical officers with their assistance in making out the returns annexed. The subject, in a medical point of view, I conceive to be of that importance, that I entertain no doubt but the pens of many, of very superior abilities to mine, will be employed on the occasion. I shall, therefore, confine myself almost entirely to the symptoms of the diseases, the medicines employed, and their operations on the constitution; to which I shall add, the appearances I perceived on dissection: which I am particular in doing, as the attention of the medical officers was wholly engaged in the discharge of numerous, complicated, and harassing duties, (to use their own words, being converted into slop merchants, &c. &c.) that scarce one could find time to inspect those that died; and as it may afford those who please to dilate on the subject, and who had not an opportunity of seeing the morbid dissections, some explanation of any particular symptoms they observed.

The disease that claimed the most particular and immediate attention, though not the most prevailing on the arrival of the troops, was—Dysentery. This distressing disease had, in most cases that came under my care, assumed the chronic form; the stools were very thin, frequent, and of a light yellow colour in some; whilst in others, who had laboured under this complaint for six weeks or two months previous to their arrival in this country, they were equally frequent, of a thin consistence, of a blackish dirty appearance, tinged with bloody mucus, and accompanied with a most painful tenesmus: the countenances much emaciated and dejected; their bodies and clothes dirty in the extreme, and abounding with vermin; much enfeebled, and complaining of severe pains across the loins, and in the calves of the legs; considerable thirst; little or no appetite; pulse rather frequent and small; very few had any fever, and those that had, very mild, and undeserving notice; tongue generally clean; skin rather cold, with a degree of moisture; made little or no water, some going five days successively without voiding any: these complained of a desire to make water, but, on pressing above the pubes, far from there being any tension, there was a slight depression, which evinced that the desire complained of did not proceed from a retention, but a suppression, of urine.

The early treatment of some was five grains of calomel at night, and a smart purgative, either of natron vitriol. or pulv. jalap. the following morning; which in others was preceded by an emetic: after the operation of the purgative and emetic, small doses of the pulv. ipecac. compos. were given every four hours, with a little wine; a pill, composed of calomel gr. iij. opii purificati gr. i. was also given at night. This plan of treatment, the emetics and purgatives being occasionally repeated, succeeded with those who had been slightly and recently attacked, and at first relieved the more violent cases; but after a few days these medicines produced no effect, and the disease continued with all its violence. I now changed my purgative for twenty grains of the rheum palmatum, and substituted for the pulv. ipecac. compos. a mixture, composed of pulv. aromat. gr. xij. confect. opiatæ gr. vj. spir. vini Gallici ʒ iiss. mistur. camphoræ ʒ x. for a dose, to be repeated every four hours, the calomel and opium pill being still continued at night. The relief which this afforded exceeded my most sanguine expectations, and, on visiting my patients the next morning, all were eager in asking for a repetition of the medicine, telling me, at the same time, they had not been to stool more than six or seven times in the night; the time they were most troubled by this distressing calamity. I was induced to try the use of aromatics, from a knowledge that their powers are not entirely destroyed in the stomach, but continue through the intestinal canal, from their good effects in fistulæ and hæmorrhoids, hoping, by their use, to diminish the great sensibility of the intestines, and by that to relieve, if not remove, the urgent tenesmus. With the same views, and with the same immediate relief, I gave, to those who complained of a suppression of urine, thirty drops of the balsamum copaibæ, on lump sugar, every six hours, without the anodyne aromatic mixture. However different these medicines may be in their general nature and properties, both afforded almost instant relief, and a small quantity of urine was evacuated soon after the administration of the second dose of the balsamum copaibæ.

Flattering as were the effects of these medicines, I soon found that no hopes of curing the complaint could be reasonably entertained from the use of these alone: the stools again became nearly as frequent as before, nor was their appearance changed. To the mixture I added five drops of the tinct. opii, and at each taking gave two grains of calomel, which I continued sufficienly long to produce a complete salivation in men under different circumstances, without any effect. Hitherto baffled in my attempts to relieve these miserable beings, I determined to see what a more general use of evacuants would do, and accordingly gave emetics and purgatives, in alternation, continuing the use of the aromatic mixture in the intermediate time, to each dose of which was added pulv. aromatic. gr. v. tinct. opii gtt. xv. Although this was was continued for some time, it was far from encouraging, the patients being much debilitated, and the stools as before. The starch injection was next tried, to which was added forty drops of the tinct. opii; this certainly increased the frequency of the fæcal evacuations, and the patients complained bitterly of the pain the injections caused them, referring the pain to the situation of the sigmoid flexure of the colon. Being at this time informed of the benefit the sick under the care of Mr Hewlett had derived from the use of the acetite of lead, I added 10 grains of that medicine to each injection, gradually increasing the quantity to thirty grains. This caused no more pain than the simple starch injection, nor were its operations different. Conversing with Mr Tucker, the senior medical officer of the hospital I was attached to, on the obstinacy of this disease, he wished me to give the acetite of lead by the mouth instead of per anum, which he proposed on the principle of the action of lead in producing the opposite complaint to dysentery, the colica pictonum. I began by giving cerussæ acetatæ gr. v. confect. aromatic. q. s. ft. pilula, which was repeated every five hours: it appeared to have no effect on the constitution. My late friend and coadjutor, Mr Williams, at the same time began by giving cerussæ acetatæ gr. iij. opii purific. gr. iss. confect. aromatic. q. s. ft. bolus, every four hours. The frequency of the alvine discharge was much lessened on the third and fourth days from the commencement of its use, but on the fifth and subsequent days the evacuations were as before, and it was then discontinued. Having tried emetics, purgatives, the pulv. ipecac. comp. aromatics, calomel, the starch injection, acetite of lead, and opium to a certain extent, without deriving any benefit from their use, once more I thought of evacuating the alimentary canal, previous to the use of opium alone. An emetic was accordingly given, which was soon followed by a purgative; after the operation of which, I began by giving two grains of opium every four hours, increasing the quantity until each dose contained six grains of the purified opium. This quantity, however enormous it may appear, was repeated every four hours, for three successive days and nights, without producing the slightest change, every thing being evacuated nearly in the same state in which it was eaten.

However painful the reflection to find all attempts to relieve this truly distressing disease unavailing, the duty still remained of endeavouring to alleviate the sufferings, though the hope of curing the disease was lost; and, to leave no stone unturned, no method untried, the decoction of bark, with the vitriolic acid, was given; wine was also given more largely than before; calomel gr. ij. opii purific. gr. j. m. ft. pil. was also given every night. On what principles people, labouring under dysentery of the most obstinate form, should improve under the use of the last named medicines, I am at a loss to account; but several were discharged cured under this plan of treatment; others were for a time improved by it, but then the disease recurred again; and many of these lost their *complaint* and existence under the more general and destructive one of typhus fever, which found its way into the dysenteric wards. Those who still remained with dysentery were, by order of the Deputy Inspector of Hospitals, collected into one hospital, where they remained, until I, through indisposition, was obliged to leave the hospitals and Plymouth. Their diet was at one time bread, milk, oatmeal, gruel, tea, and wine; at another time, they had boiled mutton and porter; and, last of all, their diet consisted only of milk, rice, and wine. It is a painful task to relate unsuccessful practice: yet, where is the medical man who is successful in all his practice? By reviewing what I have already said, it will be seen what medicines were used, and what their operations, if any particular operation can be allowed where every thing came away nearly in the same state it was taken. To those already named, I should add, that my friend Williams gave the pulvis antimon. gr. ij. opii purif. gr. i. m. for several days, but without producing any evident alteration. When we consider the weather, the hardships and privations these poor souls endured, the wretched sour wine, constant rain, long laborious marches, and want of rest, we shall not be surprised at the grounds of an almost incurable disease being laid, but shall be astonished how so many, under the circumstances in which our army was placed in Spain, should escape. The French army, I am informed, by an officer who was a prisoner, but has been liberated, has suffered infinitely more than ours, by dysentery, and

Typhus Fever,

Which, though the most prevailing disease on the arrival of the troops, was, at that time, by no means of the malign form it afterwards assumed, which, I think, is sufficiently proved by the number of deaths that occurred at the hospital, Old Cumberland Square, being, in the first three weeks, only eight; and of this number, three died within four days after their admission; whereas, in the subsequent three weeks, the number amounted to twenty-eight. About the 18th February, the weather changed from almost constant rain, thunder-storms, and cold, to very dry and warm. Then it was that this destructive fever began to show its malignant nature; and the men that remained of the first admittances, and who, till then, had been daily improving, were attacked anew. Drowsiness, with headach, were the first symptoms to announce the attack of this disease; an emetic was immediately given, and, after it had operated, a purgative.

The second day.—Headach continues, more particularly across the eyes; countenance somewhat flushed; tongue covered with a white fur; pulse full, hard, and beating about 80 strokes per minute; skin hot and dry; eyes dull and heavy; and general pain over the whole body: a mixture, composed of the antimon. tartar. gr. ss. aq. ammon. acetatæ ℥ss. aquæ puræ ʒiss. was given every four hours, which produced no sensible effect.

Third day.—Headach continues; eyes very painful; countenance much flushed; tongue covered with a thicker fur, and perfectly white; pulse more frequent than yesterday, full and hard; skin as yesterday; medicine continued. Calomel gr. iv. given at night, and barley water acidulated with cremor tartari frequently given.

Fourth day.—On visiting your patient early this morning, you might be induced to make a favourable prognostic; no headach; eyes rather painful, conjunctiva being turgid with blood; pulse not so frequent; skin not so hot; has had two or three stools, and been sleeping since midnight; answers with considerable vivacity. This was only a deceitful intermission, and was always followed by an increased severity of all the symptoms. On visiting him about noon, head aches extremely; eyes more painful; pupil dilated; countenance exceedingly flushed; the fur on the tongue divided into three parts, the central one being of a spiral form, and light brown colour, the lateral divisions being still white, and extremely dry; pulse 96, full and hard; skin hot and dry; and an unconquerable thirst. Pulv. antimon. gr. iij. calomel. gr. ij. cons. rosæ q. s. ft. pil. every four hours, until three or four stools had been procured, which being obtained, the calomel was omitted, and a mixture, composed of camphor julap, and vitriolic acid, given with the antimonial powder.

Fifth day.—Had a restless night; headach still continues; face flushed; eyes not so painful; tongue perfectly dry, the fur exhibiting a brownish tinge, that of the centre being the darkest, the apex of the tongue extremely red; skin as before; the cold affusion was used, but not followed with the beneficial effects expected; pulse 112, still full and hard; two or three stools in the course of the day; water rather scanty, and high-coloured. A smell of a peculiar nature, and very offensive, arose from the patients, which was, of itself, sufficient to distinguish this from any other fever. The medicines of yesterday were continued, and a blister applied to the back part of the neck.

Sixth day.—Very restless in the early part of the night, and at intervals delirious; a little sleep towards the morning; petechiæ now made their appearance; the patients lay in a comatose or murmuring delirious state, with the face prone; on being called to, they would start up, as if eager to answer every question before you could finish the words of it; the eye being remarkably quick or glassy; pulse 120 and full; tongue dry, and of dark-brown colour, the apex still preserving that unnatural redness; one or two stools. Medicines of yesterday continued; and to some calomel gr. v. was given in the evening; oranges also were allowed.

Seventh day.—Little or no alteration since yesterday; take the tea and gruel with great reluctance. Where no stools had been obtained, ex. colocynth. compos. gr. x. was given; the other medicines were continued.

Eighth day.—Delirium became more constant, though rational answers are given by rousing, and it is necessary to call loud, as most had a degree of deafness about this period; pulse extremely frequent, but softer than before; the colour in the face not so bright; skin not so hot, but perfectly dry, nor has any moisture been perceptible since the commencement of the disease; tongue beginning to chap; lips black; the teeth begin to have sordes collected on them; stools loose, and of a dark appearance; little or no water; seem regardless of themselves and every thing around, lying with their faces prone; sometimes extremely restless, at others, murmuring and sullen. This appeared the decisive or critical day with many, although, on taking a review of the whole, no particular day can, with propriety, be called the critical one, some dying on this day; others had not yet got to the severest stage; whilst, with a few, the disease terminated, and a desire for food was expressed. Wine was now given, about three quarters of a pint per diem; the camphor mixture with the acid was given more frequently, and the pulv. antimon. increased to five grains.

Ninth day.—Pulse and skin as yesterday. Although the sordes are frequently removed, they collect in considerable quantities on the teeth and lips; the breath is very hot, the tongue becoming black, whilst it, with the whole of the mouth, is extremely dry; about one stool, of a dark colour; scarce any water voided; delirium almost constant, and, in muscular men, of a more active or restless nature. The medicines continued; the head shaved, and a blister applied; calomel. gr. vj. opii purificati gr. i. m. ft. pil. given at night.

Tenth day.—Pulse exceedingly quick, not so full as before, and much softer; skin not so hot as in the early stage, but still exceeding the healthy standard; stools loose, and of a bottle-green appearance; no water voided by many, by others very little; singultus was no unfrequent addition to the other symptoms at this stage of the disease, but it was extremely weak, lasted only for a short time, and recurred at distant intervals; with many, the blister did not rise. A pint of wine per diem; and camphor gr. vj. opii purificati gr. i. m. was adminstered three times a-day.

Eleventh day.—Delirium still more active than before; singultus recurring more frequently, and with increased strength; pulse generally as yesterday, but, with some, begins to intermit, though the intermissions are by no means regular; many complain of having rigors which last for a few minutes, and return again at intervals of six or ten hours; countenance much changed, presenting, in unfavourable terminations more especially, the facies hippocratica; eyes dull, or, the contrary, *extremely quick:* great restlessness, rolling from side to side, or lying across his own and two adjoining beds, constantly throwing off the bedclothes, and beating about his hands; feet colder than natural; no stool or water voided since yesterday; tongue, lips, and teeth covered with sordes. The medicines of yesterday repeated; the pediluvium used, and a blister applied to the scrobiculus cordis; an injection with ℥i. magnesia vitriolata was given in the evening when no stool had been voided; hot bricks, wrapped in flannel, were applied to the soles of the feet in the evening, and bark and wine were given in considerable quantities.

Twelfth day.—By the frequent administration of the bark and wine, and by the other means used, the patients were much roused; the pulse became fuller, and less frequent; the warmth in the feet again returned; one or more stools; the delirium as before; lips, tongue, and teeth the same. This state generally continued until the evening, when the upper as well as the lower extremities became cold; singultus again returned, followed by the more alarming symptom of subsultus tendinum. Camphor was now given in larger doses, and more frequently; and to the bark and wine a little brandy was added; the pediluvium and hot bricks were continually applied.

Thirteenth day.—Been delirious all night; had no stool; with the greatest difficulty made to swallow the bark and wine; the camphor and opium can no longer be given, singultus occurring more frequently; subsultus tendinum almost constant; pulse frequent, small, and intermitting. Notwithstanding brandy and wine were given as frequently as possible, symptoms of dissolution advance; and on the night following this day, those, whose fate it was to die, were left with a small thready pulse, hard singultus, uninterrupted subsultus tendinum, and cold extremities, in which state they continued, going from bad to worse, until the middle of the 14th day, when death eased the troubled body.

Those whose good fortune it was to recover of this destructive malady, if attacked with singultus, had it much earlier, and it occurred only in the evenings. There was scarce any alteration perceptible on the 9th, 10th, and 11th days; but on the 12th, the sight of moisture on the edges of the tongue announced the termination of the disease, and the comfort of returning health. On the 14th day, the milk and gruel were *asked* for, the tongue began to peel, and, from that day, until the 27th or 28th, strength, appetite, and health continued to increase, when they generally quitted the dread abode of disease and death. Such, however, was not the happy lot of all; for, although the 26th day might promise a quick return to their companions in health and arms, the 27th did occasionally recal the past scenes; and some, by this cruel enemy of man, were snatched from their improving comrades, and once more conveyed to the miserable abode they so willingly and recently quitted, and again had they all the symptoms and torments to endure, before they could rejoin their brethren. Relapse cases more frequently proved fatal than original attacks. Such was the fever in general, and such the treatment of many. The only benefit derived from these medicines, was rather a lax state of the bowels. Of the thousands of doses of antimony which were given, from two to six grains each, not one produced the smallest moisture, or evident determination to the skin; nor did they produce any effect, (if we exclude them from any action on the intestinal canal, and as calomel was occasionally combined with the antimony, we are almost justified in doing so), except in two or three instances, where the last named dose of six grains produced vomiting. It may be objected to me, that the antimony was not taken: the contrary, however, is the case, as all the medicines were administered by myself, and to every patient. In the night, however, I was obliged to trust to the orderlies; but a sharp look out was kept on them; and I have visited the wards at all hours of the night, to see that the medicines were given, so that I am satisfied they were given regularly in the night, as well as in the day. From the great number of patients, and the inaction of antimony, &c. it may be presumed other remedies were tried beside those already mentioned. With some, the repetition of emetics, and the frequent use of the cold affusion was tried in the early stage of the fever, but with no better success. The cold affusion, so strongly and justly recommended at certain stages, in almost every kind of fever, was repeated every six or eight hours, the dry skin and great heat warranting it. In three cases only was it followed by perspiration, and in these the perspiration was profuse, and the disease terminated favourably; in a few others, it was followed by relieving the symptoms in some measure; but on far the greater number, it did not produce even a slight shock.

Another and more successful plan of treating this malignant and destructive disease, was the large and frequent use of calomel. As emetics were not found to produce any beneficial effects, they were entirely dispensed with in this plan, and ten grains of calomel were given, immediately on the admission of the patient, which, the next morning, was followed by twenty-five grains of the ex. colocynth. compos. This last medicine having evacuated the stomach and bowels, was succeeded by a more general use of calomel: a pill, composed of four grains of calomel, and two grains of antimony, was repeated every four or five hours: the barley water, acidulated with cremor tartari, and an infusion of toasted bread, was allowed as a drink: the pulse being frequent, full, and hard, and the affection of the head considerable, I could not think of giving wine and opium in the first stages of this fever, although generally recommended; but at night gave one grain of opium, with ten grains of calomel. Whether I ought to attribute the rarer occurrence of petechiæ to the large use of calomel, to any change in the atmosphere, or any thing else, I know not;

"Felix, qui potuit rerum cognoscere causas:"

But certain it is, that, under this mode of treatment, petechiæ were scarcely ever to be seen: the cold affusion, too, was continued, with the early use of calomel; but, after a few days, that, and the pulvis antimonialis were discontinued. The first action of calomel was on the bowels, which it kept in a lax state; but after its use had been continued for some time, a slight ptyalism was produced, which, whenever it occurred, insured the recovery of the patient; nor did one of my patients die, whose system had, to this extent, been affected with calomel. This, however, was not the only medicine used: the fever advancing, and singultus occurring, opium was combined with the calomel: wine, blisters, and the pediluvium were had recourse to as occasion required; but these were less frequently necessary than before. My late esteemed friend, Williams, sensible of the advantages arising from an affection of the system by the use of calomel, left behind him a note, with the names of six patients, whom he caused to rub in two drachms of the ung. hydrargy. fortius, every night, and to whom he gave calomel gr. x. pulv. antimon. gr. ij. opii purific. gr. i. three times a-day. Although he did not live long enough to see the result of this practice, it is no small pleasure to me to be able to say, *all* of them recovered, notwithstanding they had the disease as severely as any men I knew. Of four medical officers who were attached to the temporary hospital, Old Cumberland Square, one only, Mr Tucker, the senior, escaped the influence of this contagious fever; two others, who belonged to other hospitals, but had apartments in this, were also attacked, though none, except Mr Williams, went through the regular stages of the fever; and, as his case was one of the worst, I shall subjoin it, as giving all the symptoms of the fever. Of twenty-nine orderlies or attendants, twenty-five imbibed the contagion of this destructive malady. The medical officers and attendants at the other hospitals, in like manner, caught the disease; but perhaps a greater proportion escaped, as this hospital was only a barrack, and, from its unfitness, nothing but the exigency of the times could warrant its conversion into an hospital. Before I conclude this paper, I think I ought to mention, that Mr Stevenson, surgeon of the third Lancashire militia, in addition to the practice generally adopted, used large and repeated bleedings, which a reference to the proportion of deaths that occurred at the hospital under his care appears to justify.

The diet consisted of milk, tea, oatmeal gruel, and, on recovering from the fever, mutton broth, meat, &c. to which may be added, jellies, oranges, raspberry vinegar, and many other comforts, which were furnished by the charitable inhabitants of Plymouth Dock, Stonehouse, and the neighbourhood: Nor can this be an improper place, however inadequate I am to the task, of telling the world, that these sympathizing people came forward, and offered their houses, their clothes, their purses, and their hearts, to relieve a brave, but distressed army—an army that had fought and bled in support of an harmless people against lawless plunderers. Their offers were not unacceptable or unavailing, as every soldier who was sick at Plymouth experienced the benefits of their hospitality, and quitted the place with gratitude and regret. Their friendly aid was not confined to the soldiers alone; for their wives, widows, and children were entertained in sickness, clothed, and generously and amply provided for on their journies home, by them.—It would be ingratitude on the part of the writer of this paper, were he to omit mentioning the Welsford family of Widey-house, for the particular kindnesses he and his late friend, Mr Williams, experienced at their hands during their illness.

On Sunday, March the 5th, after having opened two bodies, in conjunction with Mr Small and myself, Mr Williams said he would not proceed to the inspection of the third, until he had had some victuals, as his head ached, and he was fearful of imbibing the contagion. Having stayed longer than I expected he would, the third was opened before his return; his headach continued during the day; but he ate his victuals with his accustomed good appetite.

Monday, March 6th.—Complains of an increase of pain in his head; performs his duty, and has visited the sick under his care, five or six times this day; neither ate nor drank as usual, nor is he so communicative; requested me to visit his sick in the evening, and retired early to rest.

7th.—On visiting him this morning, found him in bed; told me he had been vomiting the whole night, and that his head ached more than before; complained of great pain in his eyes; his face was flushed; skin hot and dry; tongue covered with mucus, beneath which was a thin white fur; pulse beating 86 strokes per minute, full and hard. I had now no doubt he would have the fever, and immediately informed Mr Tucker of his illness, who advised an emetic to be given, as his sickness still continued. Six grains of tartarised antimony were dissolved in six ounces of water, and two ounces of the solution immediately given, which, in twenty minutes, was thrown from the stomach, with a quantity of slimy mucus and bile; in half an hour, he asked for two ounces more of the solution, which were given, and instantly discharged. The emetic, with the aid of warm water, having operated copiously, and his stomach appearing tranquil, he asked for fifteen grains of calomel, his favourite medicine and usual dose.—Here I ought to mention he had taken the same quantity on Sunday and Monday, and had had no stool. This remaining on his stomach, I gave him, in the afternoon, a bason of tea, with a little dry toast, which he consumed, after much persuasion; it remained only a short time, and was thrown up. In the evening, he took twelve grains of calomel, and one of opium, and after it a small quantity of chicken broth, which was also thrown up about three quarters of an hour after.

8th.—Had no sleep all night; head aches as before; extreme impatience of light; face much flushed; pulse full, hard, and rather more frequent than yesterday; skin very hot and dry; tongue covered with a white fur; no stool; water high-coloured and offensive. Took a bason of tea and a small biscuit, which remained on his stomach ten minutes; when coughing, he threw the whole up. The Deputy-Inspector of Hospitals and Mr Tucker visited him this morning; the former recommended twenty-five grains of powdered jalap and half a drachm of cremor tartari to be given: but Mr Williams saying he was certain it would not remain on his stomach, and being exceedingly partial to calomel, which he had given with so much success to others, requested to have ten grains of calomel, and five grains of ex. colocynth. comp. made into two pills. Before he would take these, he desired to have a trial of the cold affusion; three buckets of water, containing, in the whole, about eighteen gallons, were accordingly thrown over him, in the slipper bath. It scarcely affected his breathing, nor was it followed with any effect. He now took one of the pills, which remaining, he asked for the other an hour after; half an hour after this, he had some chicken broth, which was immediately rejected. The saline effervescing draught was given, but instantly rejected, as were all the liquids he took this day. The cold affusion was repeated in the evening, aud produced a violent shock, but was followed with no other effect whatever. A pill, containing ten grains of calomel, and one grain of opium, was given him at night; no stool.

9th.—Headach as before; eyes more painful; the vessels of the conjunctiva turgid with blood; tongue covered with a whiter and thicker fur; skin as yesterday; pulse the same; no stool; water in small quantity, high-coloured, and of a very offensive smell; says he shall die, which was no uncommon thing for the sick to say, and, in all instances, except two, the prediction has proved too true. Mr Tucker having advised him to comply with the wish of the Inspector, he took the jalap and cremor tartari; it remained only a few minutes on his stomach. He had an injection, with ℥i. of magnes. vitriol. which remained. He used the cold affusion three times by ten o'clock in the evening, and took the calomel and opium pill as before. He drank frequently of raspberry vinegar and water, which was brought him from Widey-house, by a Mrs Stevens, who, though acquainted with the contagious nature of the fever, was the bearer of these good things, and a constant visitant of the sick.

10th.—The servant who sat up with him last night told me he had been a little delirious in the night; that he had sucked four lemons, and had puked every time, immediately after drinking. Fifteen grains of cathartic extract and ten grains of calomel were given this morning, and, at his own request, the cold affusion was repeated; it produced only a slight shock. He took a little gruel and wine, but had no sooner swallowed it than it came up again. The saline effervescing draught was given repeatedly, and rejected immediately. About one o'clock this day he had a very offensive stool, of a blackish appearance. Chicken broth was frequently given and rejected; opium and calomel were now given in small doses, and oftener. His pulse was upwards of a hundred; tongue beginning to take the brown crust; skin very hot and dry; face exceedingly flushed; eyes painful, and head still aches, though not so much as before. The cold affusion was again repeated, with no other consequences than before.

11th.—Had six stools in the night, and tells me he has had cold rigors; headach much abated; pulse and skin as yesterday; eyes not so painful; tongue much browner, observing the divisions before noticed in others, with the unnatural redness of the apex. Drank a bason of tea in the morning, with the greatest reluctance; it remained on his stomach for the first time—the effervescing draught, however, which was given at eleven o'clock, was thrown up immediately. Camphor mixture and vitriolic acid were tried, but with no better success; opium, in solution, was also given, with camphor mixture, and rejected. The cold affusion was tried three times this day, but to no better purpose than before; he said he was certain it was of no use, nor would try it again. He was delirious at intervals this day. Wine and gruel were given him, but constantly rejected. In the night, he took camphor mixture, muriatic acid, and laudanum, but threw up this as well as every other liquid.

12th—Had two stools in the night, which, from the fetor they produced, were removed before I could see them. Has been delirious nearly the whole night: pulse 120, still full and hard; tongue and skin as before; eyes and head nearly free from pain; will take nothing but oranges and the raspberry vinegar and water. About twelve o'clock, had severe spasms or rigors in the lower extremities, nor do I think he was so hot as before. At one o'clock, used the pediluvium, then wrapped him up in warm blankets, and at two o'clock he had a gentle perspiration, which, by drinking warm tea, continued until four. During the time he perspired he was not at all sick. Port wine was given in the evening, and immediately rejected. A pill, containing eight grains of calomel and one grain of opium, was given at night; and during the night the camphor mixture and muriatic acid, which was uniformly rejected. At half past ten he had a renewal of the rigors, after which he was delirious. By the unremitting exertions of Mr Small, who attended him this night, a little port wine was retained on the stomach. His face, breast, shoulders, and body were frequently cooled by sponging with vinegar and water.

13th.—Pulse as before; tongue very dry, dark and chapt; skin not so hot, but still exceeding the healthy standard; the cathartic extract and calomel pills were repeated this morning; the raspberry vinegar and water thrown up as soon as taken. As the medical officers came to see him frequently during his illness, this day he put his tongue out to almost every one without being asked. He wept frequently. His face had changed its appearance greatly, and he expressed much satisfaction to me if any one said he was as ill as any patient they had seen. The Medical Board, he frequently said, would acknowledge, by his illness, that he had not neglected the sick. I begged of him to have a blister applied to the neck, which he, after saying it was to no purpose, consented to; the pediluvium was used at twelve o'clock, and at two he had a renewal of the rigors, which were followed by a profuse perspiration at four. By way of nourishment, oranges, and raspberry vinegar and water were the only things he would take. Opium and calomel were given in small doses, and, after it, the effervescing draught, but this was rejected. Vinegar and water were frequently applied by means of a sponge, which was extremely grateful to him; he took about three parts of a bottle of good port wine during the night, and was very delirious and restless.

14th.—This morning made apparent to all what my friend Renny had before observed; a suffusion of bile had taken place, and the face, breast, and arms were become extremely yellow. Pulse 132, not so full or hard as before; tongue black, lips and teeth covered with sordes; has had no stool, nor made any water. A glyster was given, which remained. Soon after the administration of the glyster, singultus occurred. The head was shaved and a blister applied; another was applied to the scrobiculus cordis. He asked for a little porter, and soon after a little cyder. At twelve o'clock he had a repetition of the rigors, which was followed by an increase of heat; at five o'clock he had a very offensive high-coloured stool, which was mostly the glyster given in the morning. The pediluvium was used twice this day, but not followed by perspiration; wine was given, and by force, as he now refused to take any thing. At nine in the evening he had fresh rigors, and requested me to lye on him, as they were very strong. By this means they were soon stopped, and were almost instantaneously followed by singultus, which now came on more frequently. A pint of wine and 140 drops of tinct. opii were given him by the morning of the 15th, when he lay more composed, though without sleep. His pulse was not so full as before, but beating 136 strokes per minute; tongue, teeth, and lips as yesterday; heat above the healthy standard; no stool or urine voided. He took a little tea in the morning, which was rejected half an hour after. At eleven, in compliance with the wish of a gentleman who came to see him, another effervescing draught was given, which continued on the stomach five minutes only; and, at the suggestion of the same gentleman, a table spoonful of yeast, which remaining, was repeated every half hour after, and was, after the first spoonful, as constantly rejected, until two o'clock, when he fell asleep, and continued sleeping until a quarter before five, when he was seized with a convulsive fit, the strength of which gradually diminished until half past six, at which time he had another. His breathing during this time became slow and laborious; pulse at one time innumerable and intermitting; feet cold; singultus became very strong, and extremities convulsed and cold; pulse again became fuller and regular; feet once more grew warm. A little wine was poured into his mouth and swallowed, though unconsciously. His pulse again became innumerable and intermitting, gradually growing weaker and weaker; and, on a sudden, without a sigh, he breathed his last.

This case differs from the rest in the constant vomiting, the obstinate costiveness, going the five first days without a stool, the repeated perspirations, which I had observed in three cases only, and the absence of subsultus tendinum, which always occurred in fatal cases. The suffusion of bile (making this the typhus icterodes) I had observed in six cases; and of this number five died. He was short, but very muscular, and naturally of a good constitution. All the muscular men that I saw die, and it was my fate to see many, went off in convulsive fits; whilst others of a lax fibre died more calmly, and were not unfrequently perfectly sensible in their last moments. One man particularly said, "O dear, how tender I am;" and died in my arms, whilst I was about to give him some wine.

The following are the appearances I noted on the dissection of twelve men.

John Riley died of typhus fever.—The brain, in all its parts, perfectly healthy; lungs generally adhering to the parietes of the chest, and slightly attached to the diaphragm; liver a little indurated; gall-bladder much distended with bile, of a very dark appearance; spleen very soft, and structure broken down. On rupturing its coats, which was easily done, it presented one mass of mucus, of a deep brown colour, irregularly intermixed with a substance of a cellular or fibrous nature; kidneys rather small and paler than usual; bladder empty and flaccid, appearing to have contained no water for some days.

Serjeant Edwards, typhus.—The brain not presenting any morbid appearances, I shall for the future only notice that organ, where I perceived any deviation from the natural standard; lungs slightly adhering to the sides of the thorax, but strongly and largely connected with the diaphragm; stomach distended with air, and containing a small quantity of aliment; small intestines contained a small portion of matter, of a pulpy consistence, and of a pale yellow colour, but exhibited no marks of disease; large intestines distended with fetid air; spleen remarkably large and soft, its internal appearance like that of Riley; liver and kidneys healthy; bladder empty; gall bladder as in Riley.

Serjeant Eyles, typhus.—Vessels of the pia mater turgid with blood; lungs adhering to the posterior part of the chest, and in the anterior part of the superior lobe of the right lung an abscess, containing about one ounce and a half of bloody pus; stomach and liver as already noticed in the last case; gall-bladder containing black, light, yellow, and white, or uncoloured bile; spleen, a uniform mass of bloody mucus, breaking on the *slightest* pressure, and presenting no fibrous appearance; pancreas perfectly white and hard, much thickened, and not quite so long as what I have been accustomed to see in natural dissections, approaching to, and what I believe is generally called, scirrhus; other viscera had no marks of disease.

Thomas Dowgill, typhus.—Lungs slightly adhering to the sides of the chest, and a small quantity of pus effused on the right lobe, close by the sternum; the rugæ of the villous coat of the stomach almost annihilated; bile black; spleen not so completely rotten as the last case; pancreas like the last;—and here it may suffice to omit noticing this viscus, as it presented the same appearance in every subsequent case; in the first two cases it was overlooked. Small intestines, although presenting no morbid appearance to the eye, were extremely soft in their texture, and broke with the least force imaginable; large intestines, from a little above the sigmoid flexure of the colon to the termination of the rectum, were covered with numerous small ulcerations, which induce me to think this man had dysentery previous to typhus.

David Whitehead, typhus.—Congestion of the vessels of the arachnoid membrane, but no inflammation; thoracic viscera perfectly sound; abdominal viscera, as observed in Eyles.

Robert Snow.—This man had laboured under typhus, but, beginning to convalesce, he was removed to a ward of recovery. After having ate his dinner, he was walking in the ward, and had drank some water, when, returning to his seat, he fell down and died. A variety of means were tried to restore him, as the cause was imagined to lye in the brain; great pains were taken to detect any morbid appearance that might exist in that organ; there was a considerable turgescence of the vessels of the pia mater, and a small effusion of serum under the dura mater, with about two teaspoonfuls of the same fluid in each of the lateral ventricles; stomach half full of undigested aliment; liver a little indurated; spleen and pancreas as before noted.

Edward Keep, typhus.—Abdominal viscera as in Eyles.

Serjeant Frankland, typhus.—Thoracic viscera sound; abdominal viscera as in Eyles; the spleen broke all to pieces on endeavouring to lift it up, being the most completely disorganized of any that I saw. This man's bladder was full of water, which was a very rare thing to meet with.

Thomas Caswell—typhus supervened upon dysentery. Slight adhesions of the lungs; villous coat of the stomach almost level; liver healthy; bile green; spleen adhering to the liver, and but slightly altered in its appearance, being much firmer than any I had before examined; small intestines, about a yard and a half of the ileum in a gangrenous state; large intestines, from the transverse arch of the colon to the anus, most horridly ulcerated, from the size of a shilling to that of a crown, whilst the cæcum and ascending colon were not at all ulcerated, but were much contracted in diameter, as was the *whole* of the intestinal canal; bladder was collapsed, and appeared to have been so some time.

Corporal Mackintosh, typhus.—Congestion of the vessels of the membrana arachnoidea; lungs adhering to the diaphragm; the abdominal viscera, as in Eyles; bile green.

G. Robinson.—No disease of head or lungs; in other viscera the appearances noted in Eyles. Another man opened by Mr Stevenson, and which I saw; stomach distended with air, and the villous coat redder than natural in a few spots, but not inflamed; spleen and pancreas as already frequently noticed. In no one case did I perceive the least mark of disease in the heart and pericardium. Some others I opened, but took no notes of the appearances; nor is it at all material, as they were the same as those already noticed. I was particular in examining the brain, on account of the extreme affection of that organ; and would rather notice, as a congestion of its vessels, what, under no known functional affection of that organ, I should consider natural, that I may not omit the slightest appearance to account for the extreme pain in the head. The kidneys were generally small and paler than natural, and the inguinal glands were much enlarged and indurated.

It may not be amiss to observe, that, in examining the brain, I did not remove the bones of the cranium in the usual manner, by sawing around them, but by breaking the bones in the direction they are generally sawn through, with a hammer, a method which gives you the brain and its membranes perfectly sound, and which I believe was first introduced by that great anatomist Bichât. Whatever may be the opinions of medical men as to the cause and nature of fever, it matters not, provided remedies are found for it. By this I do not mean to assert, that calomel is an efficient remedy for every, or any particular kind of fever; but I mean to say, that those who laboured under this contagious fever, and were treated with calomel in the large way described in this paper, did much better than those that were treated with antimonials, wine, bark, &c. &c.; indeed, the two last named medicines appeared to me to be highly improper, as the pulse continued almost to the last day full, hard, and bounding, more like an inflammatory than a debilitated pulse. The *effects* of fever (being principally on the secretory organs) appear to me not only to warrant the large use of calomel, but that of mercurial ointment also, as by these we are enabled to keep up the secretion of saliva, which must be of great importance where so great a thirst, and no saliva exist: this secretion of saliva assures us also that the circulation goes on regularly. I believe the affection of the brain may be considered, not as the cause of fever, but as an effect of the cause that induces fever: And may not the disease of the lungs, spleen, &c. be induced by the influence of the nervous system over them, or by the action of the diseased circulating fluids? Do not the capillaries (as Bichât says, in inflammation) receive coloured blood in consequence of their increased sensibility? does not this circulation of red blood in the capillaries account for the deficiency, and unnatural secretions? and as no perspiration was produced, and the temperature of the body continued much above the natural standard, the throwing of water over the whole body, not producing in most an affection of respiration, might not the continued application of cold (the patient being put in a cold bath for eight or ten minutes) be of great service?

The annexed returns are only up to the 27th of March, and consequently do not include the amount of deaths beyond that day, though several must have died afterwards. They, however, include the amount of admissions, as there remained no troops to be attacked at that time. I have not been able to procure the number of deaths from that day, being obliged to leave the place from ill health. From the gross amount 132 must be deducted, that number having been sent from Old Cumberland and the two Mill Bay hospitals into others, for the convenience of the sick, and being twice returned.

Of the number of deaths, twenty-five died of wounds, but most of these had typhus or dysentery too; the remainder died of typhus and dysentery. All that were admitted into the citadel were wounded, and about half of those admitted into the Mill Bay and Frankfort hospitals, with a few also in the Navy hospital, and No. 1. Pavilion.

Returns of Sick landed at Plymouth.

Hospitals.	Sen. Med. Officers.	Admitted.	Died.
Citadel	Mr Carmac	47	8
Mill Bay	Mr Stevenson	157	9
Mill Bay	Mr Fuge [*]	124	8
Frankfort	Mr Hewlett	162	12
Navy	Dr Thompson	594	55
No. 4. Pavilion	Mr Farrant	249	22
No. 3. ditto [†]	Mess. Marshall and Serjeant, and Dr M'Dugle	315	57
No. 2. ditto	Messrs Liss and Tucker	300	26
No. 1. ditto	Mr Cook	178	14
Old Cumberland Barrack	Mr Tucker	306	28
Convalescent Barrack	Mr Puddicombe	—	2
	Total	2432	241

Chard, June 9th, 1809.

I have thought the following case may not be unacceptable, as illustrating the course of the fever upon a patient who had previously laboured under dysentery.

Benjamin Wray, æt. about 34, was admitted into Old Cumberland Hospital on the 5th of February, with dysentery. His symptoms at that time were as have already been given in the general description of that disease. He was one of those that laboured under a suppression of urine; the greatest length of time in which he passed no water was four days, but he frequently went two days without voiding any. His treatment was as has already been described, and with variable success.

On Tuesday the 7th of March, he told me he was much better; had stooled only once the whole day, but there was still a discharge of bloody mucus with the feces. He continued apparently improved all the day; but on Wednesday the 8th, he complained of headach, great thirst, and pain over the whole body; great prostration of strength, so that he could not get up as usual. His appetite, which before had been improving, was entirely gone; his pulse, which had ranged between 68 and 80, and feeble, now beat 88 strokes per minute, and was much fuller; his eye, from being dull, was become quick and glassy; his countenance, before wan, was generally flushed; his skin, which had been generally cold, was now extremely hot; his stools, which had amounted at one time to about forty in the twenty-four hours, but latterly to ten or twelve, were reduced to two in the last day and night. I had no doubt of this being the commencement of the fever, and endeavoured to bring on the lax state of the bowels, by giving ℥i. of the magnesia vitriolata. Oatmeal gruel, mixed with wine, was given him as food and drink; but not liking this, and the orderly having left the ward for a few minutes, he got one of his fellow-sufferers to give him a bason of water, which he drank. No stool being procured, at two o'clock calomel gr. vj. was given him. He complained of the excessive heat he was in, and had thrown all the bed-clothes off him. His tongue, which was generally of a white appearance, now assumed that peculiar whiteness which, I think, of itself, almost sufficient, in the early stage, to distinguish this from any other kind of fever. The gruel was given him without wine; but he, still disliking it, had some infusion of toasted bread mixed with wine; and of this he drank freely. In the evening I found him delirious, and continually throwing the clothes below his breast. Having had no stool, the calomel pill was repeated, and a mixture, composed of volatile alkali, lemon juice, and water, was left for him to take during the night.

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[*] One was the singular case of a ball having entered and lodged in the heart, without causing immediate death. Although the public have received various accounts of this most extraordinary occurrence, the Editors have very great satisfaction in informing their readers, that, in a future Number, they will receive an authentic history of the case from Mr Fuge himself.

[†] The number of deaths, in No. 3. Pavilion, arises from the state the men were in when admitted, many of them dying within a few hours; and to the number of deaths, about six may be added, as they died in the boats conveying them to the shore, or on the beach when landed.

9th.—Lies in one position for about two hours, then becomes restless until another place gives him ease; still throws the clothes off his breast and arms; has the facies hippocratica; pulse 92, not so hard. The pill was repeated, and the mixture continued; at twelve o'clock he had a dark offensive stool, and in the evening another.

19th.—Very weak, and is obliged to be raised in his bed to receive his drink; has had no sleep, but been very restless; no stool since last evening; answers very incoherently; pulse more frequent, and very feeble. The pill and mixture were repeated every five hours; a glyster was given, and a greater quantity of wine added to the toast and water. In the evening, he was evidently sinking, and great charge was given the night orderly to be unremitting in his attentions to him.

11th.—Lies with his eyes closed, and very quiet; the glyster came away about the bed in the night; his pulse is not to be counted, and scarcely felt; at intervals he answers rationally, but his state is such as scarcely to be called living. Wine and aromatics were given as frequently as they could be; but to no purpose, as he sunk in the arms of death on the morning of the 12th.

The following case of dissection has, with many others, been communicated to me by my friend Mr John Webb, of Rivers Street, Bath, who was an attendant on the sick at Portsmouth.

James Safe.—On opening the abdomen, the omentum was found divested of that adipose substance with which it generally abounds; its edges were irregular, and its greatest length did not exceed two inches. The whole tract of the intestinal canal presented a highly inflamed appearance; in many parts, mortification had taken place, more particularly evident in the colon. The coats of the intestines were much thickened, and ulcerations were found throughout. After removing them from the subject, to have a more clear examination, I found seven or eight ulcerations in the duodenum, which I never saw in any other that I opened. These became more numerous as I descended the intestinal canal, until I reached the colon, through which, and the rectum, they were so numerous as to present one ulcerated surface, which was here and there diversified by their opening through the colon into the abdomen. I detached about six inches of the colon to make a preparation of the ulcerations, which are very numerous, and open into the abdomen; the parts intervening between the ulcerations are at least half an inch thick. The stomach was extremely white; the liver, which, you know, I am always particular in examining, was free from *organic* disease; the biliary ducts on its surface were found ramifying in great numbers, and gorged with bile. The gall-bladder was distended with bile of a pale colour; there was a partial obliteration of the ductus communis choledochus. The pancreas was completely scirrhous; the mesenteric glands were much enlarged; the urinary organs free from disease. On opening the thorax, the lungs presented the most horrid appearance you can possibly conceive, arising from suppurated tubercles.

Since writing the paper, sent last month, I have seen one of the orderlies of Old Cumberland hospital, that had escaped the fever. On its breaking up, he tells me, he was attacked at Oakhampton, on his way to join his regiment, and had been confined for six weeks; that he believed another of the orderlies would not reach his regiment without a similar occurrence. The three cases where perspiration succeeded the use of the cold affusion, happened to three men of the 1st West York militia, eight of which regiment were attached as orderlies to Old Cumberland hospital, all of whom caught the fever, and went through all its stages;—one died.

Only two medical officers died at Plymouth, viz. Mr Williams, of Old Cumberland hospital, and Mr Williams of the Citadel hospital.

Chard, July 25, 1809.

IV.

An Account of the Pseudo-Syphilitic Cutaneous Disease, Radesyge, prevalent in some parts of Sweden and Norway. By Hugo H. Böcker, M. D. Upsal.

This distressing disease, known in Norway and among some Swedish practitioners by the Norwegian name *Radesyge*, and in some parts of Sweden called *Saltfluss*, has not, till of late years, attracted particular notice; and is still most commonly confounded with the confirmed venereal lues, to which it, in many points, bears the strongest resemblance. Its being a degenerated form of the true Syphilis, or a complication of that disease with scurvy, which has been suggested, has not been confirmed by any well-founded observation; and it is now, by all those who have made this matter a subject of their investigation, thought to be a peculiar disease, perfectly distinguished from both. The characteristic marks of this disease are, ill-conditioned sores, with excavated uneven bottoms and hard edges, arising either from reddish spots, or from copper-coloured tumours on various parts of the skin, without any previous venereal infection or primary symptom; accompanied, during the progress, by swelling of the bones, sometimes by caries, and, unless checked by proper remedies, ending with destruction of various parts, and total loss of health and life.

Hardly any part exposed to the air has been found free from the disease. However, it seldom affects the face, the hands, and the private parts; but most frequently the throat, inside of the mouth, upper and lower extremities, shoulders, neck, and trunk, and more particularly those places where a bone lies close to the skin. When it affects parts covered with a constantly moist skin, such as the fauces, it never begins with tumours, but with spots of a brighter colour; whereas, on the skin of the exterior surface of the body, it either begins with spots or tumours, both of a darker appearance. Previously to the eruption, the diseased sometimes complain of illness, general languor, pain in the limbs, exacerbated towards night, &c.; but frequently it comes on without any precursory symptom, and may, for some time, proceed under no alteration in the general state of health.

The first symptoms often show themselves in the *throat*, preceded by a sense of soreness, and a difficulty of swallowing. On examining the parts, these will be found swelled, and a dark reddish colour spread somewhere over the surface, from the midst of which a whitish ulcer, sooner or later, breaks up, spreading somewhat in depth, and eroding the tonsils, uvula, or palate, with all the consequences of hoarseness of the voice, nasal pronunciation, &c. usually to be met with in syphilis. Not seldom, however, such inflamed spots disappear spontaneously, but are, in such case, always succeeded by fresh symptoms of the disease on some other part of the body. Ulcers on the *tongue*, similar to those in the throat, are seldom met with, except in children, where the infection has been conveyed to them through the nipples of a diseased person, or sometimes in elderly persons, where the tongue previously has been injured by a decayed tooth. In the inside of the *cheeks*, and on the *lips*, the first ulcer sometimes breaks up from a red spot, with an ash colour in the midst, but mostly in children, only previously to the next and usual symptom in them, an eruption round the anus. When the *nose* is attacked, the disease usually begins like a common catarrh; one of the nostrils becomes obstructed, and at length an ulcer penetrates the alæ, communicating with the inner cavity of the nose, parts of which, in the course of time, sometimes will be corroded away. On the *surface of the body*, the cubitus, olecranon, and tibia, are the parts mostly affected; less frequently the thighs, humerus, shoulders, neck, and trunk; and still more seldom the forehead, face, and hands. In all those places the ulcers may be preceded either by the above mentioned tumors, or by small spots of a copper colour, somewhat similar to an herpetic eruption, dispersed here and there, and covered with scales, which at length run into each other to larger spots, and ulcerate. This is the most usual progress on the trunk. On the extremities, especially where a bone is underneath the skin, tumors are the most prevalent. When any of these parts on the trunk or extremities are the first affected, the throat will remain unattacked, but not the contrary. If the parts round the *anus* are the seat of the eruption, this will take the form of small dark humecting excrescences, resembling warts, which at length ulcerate, but are not diffused to any extent. On the *penis* and *scrotum* ulcers sometimes, though seldom, occur;

cur; they begin with tumors, but do not spread far. No instance, that I know of, has ever been found of the scalp being attacked, or any part covered with hair, except the scrotum.

Whatever may be the seat of these ulcers, varying in size from the smallest spot to that of a hand's-breadth or more, they always are surrounded by a copper colour, considerably diffused; they generally have a round form, or somewhat approaching to that, and an appearance as if dug out of the substance; they never suppurate, but discharge a thin, though seldom fetid, matter. Most frequently they give no pain, except the larger ones; but when they grow old, or occur in irritable constitutions, they are extremely painful. They often heal up spontaneously, but are soon followed by fresh ulcers in other parts. The marks which they leave behind upon the skin have a peculiar appearance, a shining white surface, with elevated strings running across; an appearance which they never will lose in any length of time.

The tumours which this disease sometimes occasions in the bones, where these are covered only with skin (on the *tibia*, &c.), are frequently without pain, and the skin above them unaltered. They are seldom followed by caries; but, when this happens, the ulcer never will heal till after an exfoliation of the injured bone.

The disease often continues for a long while under appearance of health, and the general constitution seems but little impaired. Some irregularity, however, in the menstrual flux, sometimes occurs in consequence of the disease. But when it is suffered to proceed, and after its having affected the bones, it evidently will show its influence upon the body by loss of strength, disturbed functions, and general emaciation.

However difficult it often may be, from the mere appearance of the symptoms, to distinguish this disease from the confirmed lues venerea, practitioners have thought themselves fully justified for appropriating to the *radesyge* a peculiar place among diseases, by the following diagnostic marks. That the *radesyge* never has been found to begin with primary symptoms, like the virulent gonorrhœa, a cancer, or bubo; that it very seldom affects the parts of generation, and not those places which are liable to the syphilitic infection (the glans and inside of the prepuce), but the skin of the penis and scrotum; that, to be effectual, the poison does not require to be brought into contact with such parts as are covered only with epidermis, excoriated or wounded, but to any part almost of the whole body; that being applied to a secreting membrane, it does not produce an increased or contagious discharge, similar to that in a gonorrhœa, but an ulcer; that it does not affect the parts so speedily as the venereal poison, but requires to be kept in contact with them a longer time; that it does not, like the syphilis, attack parts covered with hair; that the ulcers often heal spontaneously; that the spots on the skin in radesyge are larger, but less dispersed, and of a deeper colour, than those in syphilis; that the tumors of the bones are of a less aggravating nature, frequently occasioning neither nocturnal pain nor caries; and, lastly, that the ulcers themselves, arising sometimes to fungous excrescences, present some difference from the syphilitic, the matter adhering to the bottom not being so thick and yellow, but thin and white, and after its having been removed, the bottom shows itself not so red as in syphilitic ulcers, but with a deep purple colour; nor are they, as these, offensive to the smell when kept clean; besides, that they spread less in the depth, and do not so easily affect the bones with caries.

A contagious matter, brought into contact with the skin by various means, seems to be the only cause which gives rise to the disease. It appears to be of a less infectious nature than the syphilis, being almost solely confined to the lower order of people, who live closely together, but still leaving many unaffected during frequent intercourse with the diseased. Generally, however, it spreads among whole families. No kind of diet (fish-eating or such like) seems to have any material influence upon the origin of the disease; nor is it propagated by hereditary infection. Both sexes of every age are liable to it, but seemingly more females and children.

The cure of the radesyge will sometimes prove very difficult when it has been of long standing; and in certain constitutions, or when complicated with other disorders, especially with the syphilis, it will hardly yield to any treatment. In children, the disease makes faster progress, but generally is much easier cured than in elderly persons. When the symptoms are confined to tumors, or to the before mentioned eruptions on the skin, the cure will be less difficult than after the ulcers have broken up. These, as well as the former, are more tedious upon the lower than the upper extremities, and on the extremities more than the trunk. The ulcers in the throat and upon the neck are the most easily removed.

The only remedy hitherto found effectual against this disease is mercury. The symptoms will sometimes very easily yield to it, but as speedily return, and prove more difficult to cure the oftener mercury has been used. A variety of preparations have been used; and, among combinations, that of mercury with hemlock with success, where mercury alone had proved ineffectual.

tual. The preparation mostly, and with success, used in that part of Sweden where the disease has occurred to my observation, has been the corrosive sublimate, in usual doses, assisted by some diaphoretic decoctions, by bathing, &c. and occasionally by the internal use of the nitrous acid. The external treatment of the ulcers have seldom been of material consequence, and stimulating applications have often done harm.

Whatever may be the preparation of mercury used in this disease, it ought not to be introduced hastily into the system, or in large quantities, but the symptoms should be suffered to disappear slowly, and the remedy be continued for some weeks after. The combined use of mercury, internally and externally, with success resorted to in syphilis, has proved improper in this disease. When too hastily removed, it will sooner or later return, becomes more difficult to cure, and at length mercury will have no effect whatever upon the disease.

But even when much care has been taken of this circumstance, the diseased not seldom has a relapse; and patients, apparently cured, returning to the hospitals after months or years, give frequent and distressing proofs of the uncertainty of the cure.

The foregoing account of the Radesyge is chiefly founded upon observations made upon it, such as it has appeared in the north of Sweden, confirmed by what I have had an opportunity of seeing myself in Norway when travelling there. Whether any thing else, or materially different, has been remarked there, or on the west coast of Sweden, where the disease is perhaps more prevalent, my knowledge at present does not enable me to decide; nothing but some few observations from Denmark having been published upon the subject.

Edinburgh, 3d August 1809.

V.

A Case of Preternatural Enlargement of the Heart, with Diseased Pericardium. By Charles Aldis, Surgeon, 25, New Surry Street, Blackfriars Road.

A son of a Mr Palmer, of this neighbourhood, of about eighteen years of age, laboured under severe palpitations of the heart, which had been, for these four years past, attended for the most part by a small, irregular and cordy pulse. A teasing cough, and constant pain at the heart were experienced; also an unpleasant fulness under the left breast, with difficulty of breathing on any trivial exertion. He was tall, very thin, pale, with an interesting countenance, and of the most delicate habit. In 1805 he was discharged as incurable from the hospital, on account of supposed phthisis pulmonalis. Digitalis, nitre, evacuants, &c. were given without producing any salutary effect. Blisters to the pained side were also applied, but afforded no relief. In short, a variety of medicines were tried, and all with the same result; nothing but small and repeated bleedings gave any assistance.

From January 1807 to the 1st of June 1809, which was the day of his decease, I had been in the habit of taking from the arm from two to four ounces of blood on the average, every two or three weeks; and at the approach of the usual period for venesection, the palpitation of the heart increased so rapidly, that, together with the difficulty of respiration, which came on in the same ratio, he could not sleep, and, indeed, could scarcely breathe. So violent were its beatings, that, when dressed, and at a very considerable distance, they were perceivable from the side: the only ease obtainable, therefore, was the immediate use of the lancet.

On dissection, the viscera in general had the appearance of being free from disease, except the heart, which was enlarged to thrice the size of that usually found in subjects of his stature when in a healthy state. The pericardium was remarkably thin, and so closely connected to the heart, as to be nearly obliterated altogether; the portion which was to be seen, was in a highly morbid state, and of course there was no appearance of the *liquor pericardii.* By minutely examining the heart, its fibres were exceedingly firm, its auricles and ventricles were perfect, but its valves were very much ossified; as also, an unusual hard feel of a portion of the aorta, at its commencement, was very distinguishable, as if ossification were beginning. What naturally led me to a consideration of this case, was the heart's being so uncommonly distended, almost without the existence of any disease, in which such enlargement for the most part occurs. In dropsies enlarged hearts are found, as also in those persons who are given to immoderate potation; but the individual in question had been very temperate in regard to his mode of living, and no marks of dropsy, either before death, or on inspection of the body afterwards, could be traced. From such a case, then, I think we might with propriety ask, whether or not, from such ossifications of the valves having taken place, might not an enlargement of the heart be the consequence? The circulation of the blood is certainly much impeded; and does not such circumstances tend to an increase of its substance? An irregular and slow movement of the blood in the cavities of the heart produces an alteration in the circulation of that fluid in the vessels which enter the heart's substance, from whence they become dilated, and a partial loss of tone of that viscus is the consequence. The heart then being thus rendered more torpid than usual, becomes inflamed; and the result is, it terminates in that languid and chronic inflammation, with adhesions of the pericardium; and sympathetic fever supervenes from disturbed circulation. In such cases of disease, originating immediately at the heart, from a defect of circulation, the medicines, to afford assistance, should be those of a stimulating kind, and which enter for the most part the blood unchanged, so as to afford a degree of stimulus to it. Neutral or metallic salts will have this effect, also nitre or its acid, &c. There are various other modes of exciting the heart and arteries to action, such as transfusion, respiring oxigen gas, &c.

In the treatment of cases of the nature of this young man's, little good can be expected from pursuing the antiphlogistic regimen, especially when the disease is far advanced, and the active inflammation has subsided, supposing an impeded circulation to be the primary cause of the disease; so that whatever increases its propellent power, tends to check the progress of the complaint.

From this patient we learn, that a person can exist a long time, perhaps for years, without the pericardium (or at least without its assistance) or its lubricating liquid; and, that the heart requires a greater degree of stimulus in consequence of such deprivation, must be apparent to the most superficial observer. The use of the lancet here acted as a stimulus, and by taking a small quantity of blood, and that repeated at short intervals, tended to increase the action by diminishing its quantity; for though the heart became more and more disturbed by the neglect of venesection, yet its circulation was not so strong, nor so equal, as when it was performed; in fact, the bleeding always gave a temporary relief, and upon it alone he depended for his existence.

London, 5th July 1809.

VI.

VI.

Observations on Contagion. Communicated in a Letter to Dr C. CHISHOLM from Dr DAVID HOSACK.

DEAR SIR,

AGREEABLY to my promise in a former communication, I shall now state to you the result of my observations on the subject of contagion, which has created so much dispute in the medical world, and which divides our profession in the western as well as in the eastern hemisphere.—As far as I have examined this subject, it appears to me to be more a dispute about *words* than *facts.* The abuse of the terms Contagion and Infection, and the neglect of writers in not annexing to them a precise definition of the manner in which they severally employ them, have, I believe, been the source of our medical warfare relative to the contagiousness of yellow fever, and some other diseases: *e. g.* The greater number of medical writers enumerate, in the list of contagious diseases, all those which are in any way communicable from one person to another, whether by *contact*, *fomites*, *atmosphere*, &c. without designating the *circumstances* attending these several modes of communication.

Lind, in his papers on contagion and infection, (which he considers as synonimous terms) is guilty of this error, in which he has been followed by most writers upon the subject of fever, &c. The late Dr Bayley, in his account of the yellow fever which prevailed in New-York in 1795, proposed a distinction between *contagious* and *infectious* diseases: He made use of the first term to denote such as are communicated under any circumstances of atmosphere, whether pure or impure, as small-pox, measles, &c. *Infectious* diseases he denominated those which are communicated in consequence of an impure or vitiated state of the atmosphere; *i. e.* that the *impurities* of the atmosphere communicate the disease, not that the air contains any *specific material* derived from the patient, except such as may be occasioned by want of cleanliness. This distinction proposed by Dr Bayley, is in my opinion an approach nearer the truth than any of his predecessors has advanced; but it does not present us with a view of the *whole truth*, upon the subject. The visitor or attendant contracts disease from one of *two sources*, either from the filth of the sick room, or from a *specific something* issuing from the body of the sick, the consequence of the peculiar disease under which he labours. If a person visiting another ill of the *yellow fever* or *plague*, derives his disease from the *impure atmosphere* of the apartment, I ask, how it happens, that in all instances he contracts the *same disease* with that of the person whom he visits? Why is his disorder not an *intermittent*, a *remittent*, *jail fever* or *dysentery*, which are considered the usual produce of filth. If he derives any thing specific from the sick, his disease is then assuredly not to be considered as occasioned by the *atmosphere*, but depending on the *peculiar condition of the fluids* or state of the system induced by the action of a specific poison; in other words, it is to be considered a *contagious* disease. The distinction proposed by Dr Bayley, inasmuch as it does not account for the communication of the *peculiar form* of fever or disease which is thus propagated, I therefore consider to be insufficient to account for the circumstances attending the communication of those diseases to which it is applied. That I may not be misunderstood, I will suppose A to be ill of *dysentery*, a disease well known to be attended with a *pecular train of symptoms*; he is in a small confined apartment, his person is neglected, the atmosphere around him is rendered impure and offensive; under these circumstances B visits him, and a few days after is also taken sick with the *same disease*, attended in all respects with the *same* dangerous symptoms which characterize the disorder of A. Dr Bayley, and those who adopt the doctrine of *Infection* as opposed to *Contagion*, consider the disease of B to proceed from the *impurities of the air of the chamber*, and not any thing *peculiar* emanating or secreted from the body of A. But as we may, *without hazard*, visit an equally filthy chamber where C lies ill of *Cholera Morbus*, or D with a *broken limb*, I therefore ascribe the disease of B to something more than the *impure air* of the chamber of A. I ascribe it to a *peculiar virus* generated in his system by the disease under which he labours, and communicated by his excretions to the surrounding atmosphere, rendering it thus capable of producing the same disease in those who may be exposed to its influence.

The communication of this virus from the sick to the well, in whatever form it may be conveyed, as uniformly produces the *same disease* as *inoculation* excites the *small-pox*, or *vaccination* conveys the *vaccine virus*.—So far, then, there is something in *common* in the communication of contagious and infectious diseases, and should be accordingly expressed in the language we employ: Some of those diseases are conveyed in one form, others in a different: we should then be equally careful to mark those circumstances

stances in which they *differ*, as well as those which they possess in *common*.

Such an arrangement appears to me not only *practicable*, but, at the same time, calculated, in some degree, to harmonize the differences of opinion which now separate the contagionists and non-contagionists. Under these impressions, I propose to arrange those diseases which are communicable from one to another under three heads. First, those which are communicated *exclusively* by *contact*. In this class I enumerate

The Itch,
Syphilis,
The Sibbens of Scotland,
The Laanda of Africa,
Frambæsia or Yaws,
Elephantiasis or Leprosy,
Hydrophobia, and
The vaccine virus.

Neither of those diseases can be communicated in any other way than by *contact;* they are, therefore, *contagious* diseases, in the strict etymological sense of the term. It is also to be remarked that these diseases are never conveyed through the medium of the *atmosphere;* actual contact alone can communicate them from one person to another.

These diseases, acknowledged by all to be contagious, and so denominated by all writers, have a law of communication peculiar to themselves. But there is a second class of diseases, also considered as contagious, which are communicated under different circumstances, governed, in this respect, by different laws of communication.

Those to which I now allude are such as are communicable both by *contact* and by the *atmosphere*. In this class I arrange—

Small-pox,
Measles,
Chicken-pox,
Influenza,
Hooping-Cough,
Scarlet Fever, and
Cynanche maligna.

Contact, or the *close approach* to the sick, labouring under these diseases, will communicate them to those who are susceptible of their influence—but they are no less communicable through the *medium of the atmosphere*. A *second law*, which governs the communication of this class of contagious diseases, is, that they are communicable in *every season*, in the heat of *summer*, as well as in the cold of *winter*—in a *pure* as well as in an *impure* air, though more readily by the latter than the former. A *third law* of communication in this class of diseases is, that the persons afflicted with them are not generally susceptible of a second attack. I say *generally*, because exceptions are related upon very respectable authority.

This second class of contagious diseases is, therefore, abundantly distinguished from the first; but they are still associated by most medical writers under the same head of contagious diseases, without assigning to each class its discriminating characters.

The same want of discrimination has, in my opinion, occasioned the numerous disputes among physicians relative to the contagiousness and non-contagiousness of those fevers which I enumerate as the *third class* of diseases that are communicable from one person to another. Under this head I arrange

Plague,
Yellow Fever,
Typhus, *Jail*, *Ship*, *Hospital or lake Fever*, and
Dysentery.

These diseases are only communicable through the medium of an *impure* atmosphere: in a pure air, in large and well ventilated apartments, when the dress of the patient is frequently changed, all excrementitious discharges immediately removed, and attention paid to cleanliness in general, these diseases are not communicated, or very rarely so from one to another. But in an *impure* air, rendered so by the decomposition of animal and vegetable substances, as takes place in low marshy countries, or by concentrated human effluvia, as in camps, jails, hospitals, or on ship-board, they are rendered not only extremely malignant and mortal in themselves, but become communicable to others who approach the sick, or breathe the same atmosphere, which has become *assimilated* to the poison introduced, in so much, that *the same specific disease* is communicated, whether it be the *plague*, *yellow fever*, *typhus*, or dysentery.

Hence we account for the fact stated by Sydenham and other writers on epidemics, that the prevailing disease swallows up all other disorders, *i. e.* that during the prevalence of an epidemic, plague, typhus, dysentery, or other diseases of this class, every indisposition of a febrile sort readily assumes the character of the prevailing disorder.—We know this to be experienced in the diseases of other countries, and we see it daily exemplified in our own: both in our cities and in the country towns, when, after heavy showers of rain, and the action of a hot sun, a decomposition of vegetable and animal substances takes place, and dysentery or typhus fever is produced, it assimilates the air to itself,

self, whatever may be the acting poison. But under other circumstances of weather and season, the disease thus originating from some local circumstances, or from a peculiar habit of body in the person so affected, does not extend beyond the family in which it first occurred, or, perhaps, the individual in whom it originated.

This class of diseases, therefore, like the former, has a law peculiar to itself: *i. e.* the diseases composing it are communicable, or otherwise depending upon the *condition of atmosphere* in which they occur or are introduced—whereas those of the second class are conveyed from person to person, through a *pure* as well as an *impure* medium: but they also are rendered more virulent and malignant in an atmosphere charged with miasmata, than in that which is free from such ingredients.

It is also, I believe, generally true of the diseases of the *third class*, not perhaps excepting in some instances the *plague* and *yellow fever*, that they may be taken a *second time*. This has been advanced by the advocates for the domestic origin of yellow fever, as an argument against the contagiousness of this disease.

But, upon the same principle, they must deny the contagiousness of all those disorders which I have enumerated in the *first* class, as *itch*, *syphilis*, *&c.*; for most of them are also to be taken a second time: yet they are acknowledged by all to be *contagious diseases*. In the same manner, many persons make the *small-pox* a standard, and conclude that yellow fever is not contagious, because it is not communicated under the same circumstances of atmosphere and season, and governed by the same laws with that disease.

They might with the same propriety conclude, that the *scarlet fever* is not contagious, because it is not attended with the pustules of small-pox. This teaches us the importance of correct language to convey the several degrees of contagion which have been noticed; and that, while we may make use of the terms now in use, we should annex to them such explanations as will convey those different laws of communication which have been enumerated. With those precautions in the use of the language we employ, I believe, the contagionists and non-contagionists will find themselves very much in the situation of those theologians of whom Pascal speaks, and ready to adopt the expression of one of them, when he observes:

> " La difference qui est entre nous est si subtile, qu'à peine pouvons nous la marquer nous memes."

We would then be ready to acknowledge we are both right, we are both wrong: and to admit, that the yellow fever is a contagious or communicable disease, in an *impure* atmosphere;

but not so where the air is preserved pure and free from noxious materials.

This doctrine too, I believe, will better account for the apparently contradictory facts, which have been urged by the advocates of the two opposing opinions, than any system that has been adopted.

It will also lead to a system of police regulations, which will best insure us against the ravages of yellow fever when introduced, at the same time that it will teach us carefully to guard against the introduction of it from abroad.

I shall treat this subject more at length upon another occasion, in connexion with the evidences of the importation of the yellow fever into the United States.

New-York, July, 1808.

VII.

Cases of Enlargement of the Knee-Joint cured by the Application of Corrosive Sublimate. By WILLIAM ROBERTSON, one of the Surgeons to the Kelso Dispensary.

DISEASES of the joints are not less frequent in their occurrence in practice, than untractable in their method of cure; for although some of them at first seem of a trivial nature, yet, under the most judicious mode of treatment, they often terminate unfavourably. This more particularly happens where the disease originates from a scrofulous taint in the habit, for which no certain specific has hitherto been discovered. When we take an anatomical view of the structure of the joints, we observe ligaments employed as the connecting medium of the bones, and cartilages interposed to prevent friction and pressure, as well as the termination of various secreting vessels and receptacles, termed *bursæ mucosæ*, containing a fluid for lubricating the joints, with corresponding absorbents for preventing a morbid accumulation of this fluid. All these are necessary for facilitating the motion of the joints in performing their different offices in life. We cannot but consider their mechanism as of a complicated nature; and we cease to wonder that diseases induced in them, from whatever cause, should become so unmanageable, and that it should be so difficult to restore diseased joints to a sound state. The danger is in proportion to the extent of the injury: The ligaments, cartilages, and bones, being of an irritable nature, are susceptible of inflammation; and if this be not subdued by the means employed for resolution, it passes into the suppurative state, which destroys the connecting medium of the bones, and renders the waste of the parts occasioned by suppuration irreparable. Under such circumstances, if the ends of the bones do not unite by a process of nature which has got the name of *anchylosis*, which however seldom if ever happens unless to young people, the patient becomes hectic, in consequence of the absorption of matter from the joint, and, if he does not submit to the imputation of the limb, he lingers out a life of misery, till death puts an end to his sufferings. As there is great difficulty of judging of the termination of affections of this sort, though apparently slight, practitioners, on being consulted, cannot be too much upon their guard in giving every necessary direction for their removal; for although they should not prove ultimately serious, yet it is much safer to subject the patient to unnecessary precautions, than allow the disease to gain ground by neglect. A great deal may be done by early and well-timed applications, and keeping the diseased member perfectly at rest. Yet all the means hitherto devised have, in some formidable cases, been employed in vain. This circumstance points out to us that we are still in want of means sufficiently active and powerful for conquering such a direful disease. It is therefore the duty of every medical practitioner to contribute his mite in bringing forward any mode of treatment which he has found to succeed in his own practice, and that is different from what is directed by surgical writers. The facts related in the following case will prove to be an instance.

In the month of February 1806, John Davidson, a joiner, æt. 24, of a strong athletic make, fell on his knees in leaping a drain where thorns were lying; one of the prickles entered into his left knee, about the middle, on the outside, close to the patella; he immediately pulled it out. On the following day, he found the knee stiff, and painful on motion, having a little redness and swelling about the puncture. He believed his knee was sprained at the same time, in consequence of the fall. In this situation he walked about for a fortnight, following his employment, though not without a good deal of pain. But on going one day a considerable distance from home, it became so painful and swelled, that he was under the necessity of being carried back in a cart. He then applied for advice to a medical practitioner, who ordered repeated leeching and fomentations, alternating with the applications of cold saturnine lotions, and the use of gentle laxatives; but none of these produced any alleviation of the pain. Repeated

blistering

half after, and said it was then strong; that it could bear any fatigue as well as the other. Upon examining the knee, no remains of any disease were to be seen, but the cicatrices of the three wounds occasioned by the caustics. It is to be observed, that the discharge from the wounds upon the poultices was generally of a bloody sanious nature, but, to appearance, never in proportion to the diminution of the bulk of the swelling; from which it may be inferred, that the caustics acted powerfully as a stimulant, in promoting absorption as well as evacuation.

At the commencement of this mode of treatment, this case had a very unpromising appearance, the more so, as it had grown daily worse under a succession of the most powerful applications hitherto found useful in subduing similar complaints; and there was every reason to suppose, that its termination would be unfavourable. Although this was rather too active and harsh a remedy to apply to the human body, and the desperation of the case could only justify its employment, fortunately its success far exceeded every expectation.

It may be hoped, that further trials, in similar cases, may be attended with the like beneficial effects. The cases in which it seems most applicable, are when the swelling is occasioned by a lymphatic effusion into the cellular substance of the joint, as it acts both as an evacuant and stimulant in promoting absorption. From its corrosive quality, it can be employed with more safety, in proportion as the deepness of the substance betwixt the surface and joint is greater, and the danger of its reaching and injuring the ligaments and bones is less. There are cases where the disease, apparently to the touch, arises from the enlargement of the ends of the bones, though this it is sometimes difficult to ascertain; for when the cellular substance has become morbidly thick, with a portion of lymph infused into it, when pressed with the fingers, it produces a similar feel as if the bones were diseased; but it may be applied, even in these cases, by first blistering the most prominent parts; and after the skin is removed, the discharge and stimulus may be kept up, by sprinkling a small quantity of the corrosive, finely levigated, over the surface, every now and then: and after one part of the knee is allowed to heal, another may be blistered, and treated in the same manner. Used in this way, it may perhaps be found not an improper substitute for the savine ointment, or for cantharides, which, when applied over a large ulcerated surface, is liable to be absorbed, and to produce strangury.

Margaret H. aged fifteen, was, in the month of September 1805, seized with a violent pain in the right knee, succeeded by a great swelling, extending up the thigh, and accompanied with fever. Leeches, blisters, and other approved methods of cure were had recourse to, for its resolution, without effect. Suppuration took place on the outside of the thigh, about a hand-breadth above the knee. She was much emaciated from the continuance of the disease, and almost confined to bed. In the course of time, a ragged piece of exfoliated bone from the femur was discharged by the wound. From this state she so far recovered as to be able to walk with crutches. The enlargement of the knee still however continuing, and rendering her very lame, a pea-issue was tried, but without any apparent good effect. About this time a fever, with which she was attacked, and which, she supposes, arose from cold, aggravated materially the disease of the knee. When she came into the Dispensary in April last, which was about two years and a half after the first attack, the joint was very painful, much contracted, enlarged, and felt elastic and puffy over the whole. The end of the *femur* appeared preternaturally enlarged, the leg very much emaciated, and, when she attempted to stretch it out in the act of walking, the tips of the toes only reached the ground. The wound in the thigh, though small, still continued open; the edges callous, and projecting, and discharging a small quantity of liquid fluid. The success of the other case encouraged a farther trial of corrosive sublimate: it was applied three different times, in different places, without scarifying the part. In this way it was slow in its operation, and acted merely as a blister, only the matter produced by it was more of a purulent nature; but it seemed to have little effect in either easing the pain or reducing the swelling. I then took a long slip of adhesive plaster, with a hole cut in it, and applied it along the inside of the joint, where the pain and prominence appeared greatest. The part exposed by the hole in the adhesive plaster was then well scarified, which may be done either with a lancet, scalpel, or scarificator. The hole in the adhesive plaster was then filled full with corrosive sublimate, and another piece of adhesive plaster was laid over the whole, to keep it from falling out. An anodyne mixture was left, with directions to take two table-spoonfuls every three hours, should the pain be violent. In this way it began to act almost immediately. She said it created double the pain that the other three had done. It was allowed to remain till the pain was quite gone, when a poultice of bread and milk was applied. The appearance, process, and slough of the corroded piece was exactly the same as described in the other case, and the effect nearly the same. The internal pain of which she complained went off, and the enlargement diminished considerably, so that she was able to walk with her leg stretched out, when she left the Dispensary. She went to the sea-bathing for her health; on her return, she felt greatly better, and could walk a good distance without a perceptible halt. Upon examination, it was found, though not equal in smallness to the other knee, very much diminished in size; and as she felt it so easy, she declined making trial of any other application.

From the above statement of the mode of applying corrosive sublimate, it appears, that scarifying the surface before the application of the caustic is absolutely necessary, by destroying not only the skin, but likewise part of the cellular substance, to stimulate the absorbents, and promote a sufficient discharge. And this may be done with much greater freedom than what one at first might be apt to suppose, without running any risk of injuring the joint; for I never found the ulcer occasioned by the corrosive penetrate any great depth, though I generally filled the hole in the adhesive plaster full, without regard to quantity. I often found, on removing the plaster, after the pain had entirely ceased, part of the corrosive quite dry and undissolved, which can be accounted for only by supposing that the particles of the corrosive that came first into contact with the skin, reduces the skin and cellular substance to such a state, as to render it incapable of being further acted upon. When, therefore, the enlargement and swelling of the joint is great, it is necessary, in order to make the caustic act effectually, to scarify it well with a lancet, scalpel, or scarificator, applied first in one direction, then across. The hole in the adhesive plaster will serve to regulate the part to be acted upon, when the scarificator is used, as it must be scarified before the plaster is laid on.

VIII.

Observations on Mr Barlow's theory "On the Origin of Urinary Calculi." By William Goodlad, Member of the Royal College of Surgeons in London, &c.

The seventeenth Number of your Journal contains a communication from Mr Barlow, a respectable practitioner at Blackburn, "On the Origin of Urinary Calculi." Should you think the following observations worthy a place in your next Number, I will thank you to insert them.

When we attend only to the outward appearance of urinary calculi, the conclusion of the ancients, that they were earthy bodies, appears a very natural one: and, that this earth was received into the system, from water containing it in solution, would appear equally probable. But, if we agree to their opinion, that impure water might create a tendency to their formation, where any earth constitutes their basis, yet, in the majority of calculi, this basis is known to be the peculiar animal acid, first discovered by *Scheele*, and by him named lithic acid, but now more frequently termed uric acid, or urée. Though this fact must be familiar to Mr Barlow, it has not prevented him from falling into a similar error; and when he calls them "earthy concretions," he must confess, that many calculi have no title to the name. Indeed, their component parts appear to have escaped Mr Barlow's attention; but it must be acknowledged by all, that they form the first link in the chain of any inquiry into the origin of these complaints. Before we can ascertain how far this, or other causes, predispose the body to their formation, or even calculate their comparative frequency in particular districts, the concurrent testimony of many observers will be found necessary, and on a much more extensive scale than has hitherto been attempted. There are a variety of circumstances which it would be difficult to bring into consideration, and with some of which, perhaps, we are even unacquainted. Your readers are, however, under some obligation for Mr Barlow's statements of their frequency in his practice, though, if we estimate their occurrence in every part of Lancashire, by this statement, they will be considered more frequent there than my experience would have led me to believe. Not more than an average of two patients were annually operated upon in the Manchester Infirmary during the time I attended the practice of that hospital: a proportion much less than has occurred in the neighbourhood of Blackburn, the comparative number of inhabitants considered. *

This difference will convince Mr Barlow of a probable fallacy in positively asserting that these cases "will not be more frequently found in one county than another." I hope, indeed, that I am sufficiently authorized by analogy to assert, that the food taken into the system will have a great effect on their production; that this will form a principal desideratum, acting, not only in different districts, but in the different stations of life in the same districts. In support of this opinion, I shall beg leave to remind Mr Barlow of the Theory of Dr Rollo, whose observations on diabetes has conferred a great obligation on the medical world, and whose consequent success in the treatment of this formidable complaint reflects equal credit to himself. Now, as a peculiar action in the assimilating organs, causes the formation and consequent deposition of saccharine matter in the urine, with a proportionately small quantity of urée, I see nothing unphilosophical in concluding that, by actions the reverse of these, a contrary effect will be produced; and that, in consequence of an excess of uric acid, a disposition to the formation of calculus will be effected. The testimony of other physicians might also be adduced to show the power which particular diet possesses over these actions; and, as the manufacturing poor in Lancashire live more on vegetable matter than in most other counties in England, may not this be one reason, that calculous cases are less frequent there than where the labouring poor eat a larger proportion of animal food? This is the case in all, or the generality of agricultural counties, and (I conclude) in Norfolk.

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* It may be said, that this account is defective, first, by being circumscribed to a part only of the inhabitants of Manchester: and, secondly, by being confined to the inferior class of society there. As far as it extends, however, it may be, I think, considered conclusive. I am not in possession of any accurate report of the number of patients annually admitted to the benefits of this institution, but I should expect it to extend to four, or perhaps to five thousand. And, when we add the probability of poor people, coming from a considerable distance around, in cases of difficulty or danger, the ratio will not be thought on the minus side. How often cases occur there, in the more opulent classes of society, is not so easy to determine. In large manufacturing towns, the labouring poor constitute a considerable proportion of the population. And I believe few cases fell to the lot of private practitioners in Manchester, during the above period.

The physical constitution of man and his diseases have undergone considerable alteration since the time of Sydenham, attributable, in a great degree, to the different customs at different periods of society. In no other manner can we explain, why diabetes, which was to him extremely rare, should now be so frequent in its occurrence; and it should, in some degree, illustrate the fact, if (on accurate inquiry being made) calculous affections have undergone a proportionate decrease. Further, a certain degree of power has appeared to me necessary for, or, at least, the frequent attendant in, a system predisposed to calculous affections: and, as scrofula is so frequent as to be almost endemial to Lancashire, may not the debilitated frame with which this is combined be unequal to the production of it? A circumstance which appears to give weight to this suggestion is, that urée forms the basis of the substances denominated chalk-stones, found in the joints of gouty patients. Arthritic subjects are particularly disposed to the formation of urinary calculi, and these diseases have succeeded each other alternately.

These considerations prevent me from subscribing to Mr Barlow's suggestion, "that the disease originates in the mucus secreted from the inner surface of the bladder, and sides of those organs and cavities through which it" (the urine) "naturally passes from its source in the kidneys to the termination of the prostate gland." I argue, in reply to this assertion, its insufficiency to account for the facts above mentioned; though, whether the glutinous matter contained in different calculi, "originate in the mucus secreted from the inner surface of the bladder," or is obtained from the recrementitious animal-matter held by the urine in solution, has been long agitated; but it is a subject of little practical importance, and one which I would not contend. "May it not" (adds Mr B.) "be reasonable to infer, that the proximate cause of urinary calculi, exists in an over degree of stimuli affecting the urinary organs, and thereby producing an excess of inspissated mucus on the inner surface of the bladder; and, by chemical affinity with the urine, calculi may probably be generated."

This conclusion appears to me to have been founded on positions which are by no means self-evident, and which are in some degree contradictory of each other. For though, according to Mr B., the proximate cause "exists in an over degree of stimuli affecting the urinary organs," he has before exempted the chief of these organs from their influence, by saying, "that the disease does not originate, so much as has been supposed, in the uriniferous vessels of secretion in the kidneys," which is of the more importance, since it reduces the subject to this plain question: Will a calculus be the consequence of stimuli applied to the bladder? Before entering into this question, it will be necessary to inquire, how, according to Mr. B., this is effected? How "the *morbid state* of these membranous cavities" is so "essentially necessary for the performance of their *healthy functions?*" I am led to inquire farther, what are these "superabundant secretions?" Mr B. has only particularized "inspissated mucus:" or how "this excess of inspissated mucus," those "superabundant secretions" which are secreted from the inner surface of the bladder, can be at the same time "stagnant in the rugæ" " that viscus? But when Mr B. speaks of its "excretory ducts, I am compelled to doubt either my own or Mr B.'s knowledge of the parts; at least to review, in my "mind's eye," all that I ever learned of the anatomy of that organ, and to inquire, with more than common curiosity, *with a desire to be instructed*, where these excretory ducts are to be found? Till now I have never considered the bladder as one, amongst the many glands found in the body.

But to return to our question. If stimuli, applied to the urinary organs, were equal to the production of a calculus, no one would venture to give cantharides, or apply a blister, lest it should produce strangury, " a superabundant secretion of mucus " and calculus !

The bladder, in its natural state, is possessed of so small a share of sensibility, that the urine, which causes violent inflammation in other cavities, in no other way affects it than by its distending power; and it is defended by (so far from the urine possessing chemical affinity with) the mucus secreted from its inner coat. But its irritability by disease is so much increased, that the urine becomes a continued stimulus. The bag no longer admitting of dilatation, is permanently contracted, and its coats thickened. Here then a " morbid state exists," very favourable to Mr B.'s opinions; it is no longer equal to " the performance of its healthy functions;" yet no calculus is formed. And I believe I am in little danger of contradiction, when I assert, that this is the most frequent morbid appearance found on the dissection of this viscus.

Mr Barlow has, indeed, illustrated his opinion by the well known fact, that an extraneous body, lodged in the bladder, will become the nucleus of a calculus; though, if we consider that any fluid containing saline substances in solution, will deposit crystals around a body immersed in it, the fact will be more satisfactorily explained. The manufacturers of copperas, &c. for this purpose, place pieces of wood across the vessel, in which, after boiling, the liquor is contained, and the superabundant fluid is let off from the bottom of the vessel, after crystallization is completed around them. The formation of calculi around a bougie may be aptly compared to this process; and, like it, is independent of " stimulating the bladder, " or of any " attraction with the extraneous body. "

Mr Barlow will not, I am sure, accuse me of intentional perversion of his meaning, if I assert, that in his concluding paragraph he contradicts his own arguments, when he says, " that we frequently meet with children who are afflicted with the stone in the bladder, *and who have been exempt from the causes above mentioned;*" but when he further adds, " and also with fœtuses in whose bladders much sabulous matter is deposited in their urinary passages, during their stage in the uterus," the ambiguity of the passage precludes any comment upon it. Lastly, the opinion which Mr Barlow has advanced, that children " may be sometimes born with the disease," is equally inconsistent with his former arguments. The " sabulous matter" can have no evident connexion with " stimuli," or with inspissated mucus; and if " stimuli" be applied, some action must be the consequence. But I need not inform him, that fœtal life consists only in the formation and expansion of those organs, the action or exercise of which is afterwards to form real life.

After having noticed what I consider the defective parts of Mr Barlow's theory, I may add, that we cannot consistently deny the authenticity of the many cases that are on record, where calculi have been found in the kidneys. And if we attend to the history of symptoms, we shall frequently find, that the patient first experienced pain in the region of those glands; that this pain became gradually extended along the course of the ureter; and, not unfrequently, that the irritation was communicated to the corresponding testis, during its passage through this tube. When these symptoms disappear, it would be natural to conclude, that the irritating body had passed into the bladder, and, by exhibiting diluents in large quantity, the patient may frequently be enabled to void it through the urethra. There are indeed symptoms which, though of themselves not to be depended upon, yet, when they exist after those already mentioned, serve to denote its presence in the bladder. Such are, a sense of weight upon the rectum; inability to sit except on the edge of a chair; irritation in the glans penis, in the course of the anterior crural nerve; and an increase of pain on the emission of the last drops of urine, &c. But, when by these or other means it is ascertained that a calculus is contained in this cavity, it becomes a duty to make some efforts to prevent its increase, and even, if possible, to resolve it. For this purpose, the exhibition of the super-carbonate of potass has been recommended. But with the use of this or any other alkali, we should strictly enforce a vegetable diet. The patient should avoid the use of animal fat, and should be restricted to a very sparing use of fermented liquor. By these means, there is, I think, some reason to hope, that even calculous affections may be considerably relieved. At least, were a number of cases selected where the operation could be protracted a sufficient length of time, and this treatment *fully* adopted, the history of such cases would be, in my opinion, a most valuable addition to our medical knowledge.

If, in taking the liberty to make these remarks, I have in the smallest degree transgressed the bounds of candid criticism, I shall be very willing to acknowledge my error. I have been anxious, rather for the attainment of truth, than for the contention of any fresh subject.

Bolsover, Derbyshire,
May 24th 1809.

THE INQUIRER. No. XVII.

Are the remote causes of Stone and Gravel yet discovered?

Although it is scarcely possible to avoid judging, in some way or other, almost every thing which offers itself to our thoughts, yet it is certain, that many persons never exercise their judgements upon opinions and practices in medicine which come before them, in order to determine whether they be conclusive or not. There are many practitioners who have a real curiosity to read, to see what is said; but very few who have any sort of curiosity to inquire to see what is true. I am, therefore, as an inquirer after truth, the more obliged to two intelligent and respectable correspondents for their attention to a query proposed in a former Number, respecting urinary calculi.

Mr Gibb (No. 16. p. 513. vol. iv.) distinctly says, that stone in the bladder is so rare a disease in the extensive district of Lincolnshire, that the operation of lithotomy has been necessary only once in fifteen years. Mr Barlow (No. 17. p. 17.) seems to think, that calculous complaints will not on minute investigation be found comparatively more frequent in one county than another. It is this difference of opinion which I am anxious to examine and to correct; and the question was proposed with the view of obtaining more accurate information upon this subject. The result of Doctor Falconer's inquiries show a material difference in the average number of stone-patients admitted into the different hospitals in the kingdom, and I should be disposed to quote the authority of your two correspondents in confirmation of the inference which that learned physician was enabled to draw from all the information which he could collect. Mr Barlow has cut thirteen patients for the stone in the course of the last seven years, whereas only one case has occurred, during a period more than twice as long, in a part of Lincolnshire, in which there is an infirmary, and capital operations often performed; so that, by estimating the population of these two places and neighbourhood, we shall come at the knowledge of one important fact with regard to the relative frequency of the complaint. Leaving the question concerning the average number of stone-patients in different counties to be still further examined, I intend to confine myself at present to an investigation of the remote causes of stone and gravel.

Urinary calculi are found under the greatest diversity of circumstances, and they differ widely from each other. The opinions of the ancients respecting the causes of their formation were extremely vague and unsatisfactory. Excess of heat, excess of cold, water impregnated with earthy substances, acid and alkali in the circulating fluids, have in turn been supposed to be the causes of stone and gravel; and these opinions and prejudices are repeated from the writings of Hippocrates, Galen, and Paracelsus, down to the present period. Boys were said to have stones formed in the bladder, because their bodies were too hot; and old men were supposed to be afflicted with stone and gravel, because their bodies were too cold; and the influence of these extremes of temperature was determined, by calling in the aid of that convenient auxiliary to an hypothesis, a *principle* or spirit of coagulation. Van Helmont ably refuted the opinions of his predecessors, in his treatise "De Lithiasi," (which contains the first attempt towards an analysis of urine and urinary calculi); and he demonstrated that the materials of calculi exist in urine; which has been confirmed by the late chemical discoveries. *

The production of stone in the bladder is not peculiar to either sex, to any age, or to any climate; yet the inhabitants of some countries are more subject to the disorder than others; and men are more afflicted with it than women. Children are more frequently affected than adults; the greatest number of patients cut for the stone, is from the age of four to eight years. Even new born children are sometimes afflicted with stone and gravel. I have been told, in several instances, where the symptoms of stone were violent before the child was two years old, that they never appeared to be free from their birth. Hoffman has written a curious paper on the diseases of children in utero; and one of the most remarkable cases recorded by him is that of a child born with a calculus in the bladder, when the mother laboured under calculous complaints. Stahl found a stone as big as a peachstone in the bladder of a child three weeks old; and Dr Armstrong mentions his having seen gravel and small stones passed by newly born children. Mr Barlow is right therefore in the conjecture with which he concludes his communication, viz. that children are sometimes born with the disease. What credit then can be given to the reasons usually alleged, for considering a sedentary mode of life, the use of wine and fermented liquors, the habitual use of acids, drinking water impregnated with calcareous earth, as remote causes of calculous disorders? Diet and regimen can have very little influence upon children; and as they are most liable to stone in the bladder, those causes must be considered nearly inefficient upon that disease. In countries where wine is the common drink of the people, the disease is seldom observed; it is always attributed to drinking beer in those districts; and on the contrary, beer is considered as a preventive of the stone, chiefly I believe on account of the strong testimony in its favour mentioned by Cyprianus, a celebrated lithotomist, who is reported to have declared, that he never met with one alehouse-keeper, but many vintners, among fourteen hundred patients upon whom he had operated. * In Switzerland, in Italy, and in Germany, few persons are afflicted with symptoms of stone. At Geneva, Dr Odier informs us, the disease is almost unknown. † In France and Holland this complaint is very frequent; yet what have these two countries in common, either with regard to climate, or to the physical and moral habits of the people? Weak sour wine is universally drunk on the Continent, especially at Geneva and the Pays de Vaud, where stone and gravel are almost unknown; but the disorder seems to prevail in countries where the use of wine is forbidden by religious ordinances; for in Arabia and Egypt, we are told, the natives have learnt several modes of relieving themselves from the sufferings produced by stone in the bladder, by the continual use of injections; a practice which implies frequent occurrence of the disorder. In tropical climates the disease is unknown. In China it is equally rare. The few who labour under symptoms of stone in our colonies, carry the disease with them from Europe; the operation of lithotomy was never performed in the island of Jamaica. ‡ Few persons will be disposed to doubt that the inhabitants of those countries are sufficiently exposed to the influence of those remote causes which act upon the organs of digestion, if there was any truth in the doctrine of ascribing the origin of urinary calculi to particular substances taken into the stomach. Among the many men employed in the army and navy, very few are ever afflicted with stone in the bladder, although they are more exposed, perhaps, than any other class of men, to the circumstances usually considered as remote causes. The fact is now well established, that the early period of life, from infancy to the age of fourteen, is most subject to stone in the bladder; and at such an early age, the manner of living cannot have much influence, because it is constantly changing. The substances existing in the supposed unwholesome wine and water, are quite different from what are found

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* Allen. Synopsis Medicinæ, Vol. i. p. 349.

† Manuel de Medecine Pratique, p. 264.

‡ Dancer's Medical Assistant, or Jamaica Practice of Physic, p. 256.

found in urinary calculi, and therefore cannot be thought to have any material effect in their production. Besides, calculi are found in patients residing in countries directly opposite; in places where the water is remarkably pure, and free from any earthy impregnation; and in places where it contains a quantity of carbonat and sulphat of lime; in districts where wine is the common beverage, and in others where wine is never tasted; in some countries where beer is the common drink, and in others where fermented liquors are rarely seen. The impurity of the water in one place, and the acidity of the wine in another, must therefore be considered as those phrases substituted for real knowledge, which the vague use of language has too often rendered current in medical science; for that only can be looked upon as a cause, philosophically speaking, which always exists where the supposed effect is most common, and without which the disease is never observed to occur.

Dr Austin, in an ingenious work published a few years ago, attempted to prove, that the stone is not formed from the urine, but from the mucus of the bladder; and he supposed the disposition to form calculous matter to be owing to a disease of the mucous membrane. This hypothesis was not new or original, even in Dr Austin's time; it was only a revival of one which had long prevailed, and is mentioned by Van Helmont only to be refuted. The same idea seems to have occurred to your correspondent, Mr Barlow; but there is no necessity for attempting to refute an hypothesis which is now relinquished, because it is contradicted by a variety of facts. The increased quantity of mucus is the consequence, not the cause, of stone; and it is produced by various irritations of the bladder, without any stone being formed.

It has been thought, that all calculi are first formed in the kidneys, and then increase by deposition from the urine, after being carried down into the bladder. But this is not correct. Some stones bear evident marks of a nucleus, which is often a small round substance in the centre of a large stone, differing in consistence and chemical composition from the surrounding parts; but other stones have no apparent nucleus, and some are hollow in the middle. Admitting the supposition, that calculi are generated in the kidney, the difficulty in accounting for their formation is only removed a step further—it is not resolved: another link in the chain is discovered, but the key which unlocks the ring is still unfound. The circumstances which dispose the uric acid, or the earthy phosphates, or any of the contents of urine to be deposited, are unknown; yet there seems nothing peculiarly disposing in the structure of the kidneys and bladder, because, in gouty and other morbid states of the system, concretions are formed in almost every part of the body.

Not long since, the medical world was astonished by the proposals of an old woman for curing the stone, unveiling the secret, and teaching the desirable art for a reward of *5000l.* Sterling. Equally wonderful remedies for dissolving the stone are announced every day in the newspapers, with a boldness and confidence that sets common sense and incredulity at defiance. Alkalies, acids, and neutral salts, vegetable and mineral substances, soap, oystershells, and wild carrot seed, have each had their advocates, who rise up and sink into neglect by turns. All these writers have a different opinion respecting the causes of the complaint, delivered in the most positive manner, and might well be laughed at, if they had not the mischievous effect of diverting the public attention from the real nature of the disease, and filling patients' heads with a farrago of words and expectations, as nugatory as the pursuit of the philosophers' stone. The different sorts of remote causes have been enumerated, that none might go unrefuted; and having pointed out the fallacy and folly of the prevailing opinions upon the subject of urinary calculi, I shall conclude with hoping, that the foregoing attempt to show what are not the remote causes of stone and gravel, has so far attained its object, as to convince every unprejudiced reader, that the real causes remain still to be discovered.

PART II.

CRITICAL ANALYSIS.

I.

Observations on Madness and Melancholy, including Practical Remarks on those Diseases, together with Cases, and an Account of the Morbid Appearances on Dissection. By JOHN HASLAM. (The Second Edition, considerably Enlarged.) 8vo. London, 1809.

THE first edition of this excellent work was published in 1798. It has been held in such high estimation by the profession, (as its intrinsic merits deserved), that the intelligent author has been induced to submit the present edition to the public notice, as a corrected copy of the former, though it is enriched with considerable additions, which the extensive scope of Bethlem Hospital has furnished, and with remarks which a cultivated mind alone could have suggested. On turning over the volumes which have been written upon insanity, it is impossible to avoid being struck with the falsehood and absurdity which have been brought to bear upon this subject. It is quite a relief to rest the wearied attention upon what is rational and sensible, like the present book. For, between the cases of an honest and experienced man, and the histories of what occur to a keeper of lunatics, who advertises for customers, there is the same difference as between a painted figure and a real one; a difference that must strike any one accustomed to the behaviour of madmen, who is diffident enough to confess that he is often at a loss to comprehend the causes of the phenomena which he sees.

Mr Haslam does not attempt to give a definition of insanity. He justly observes, that it will be found impossible to comprise in a few words the wide range and mutable character of this Proteus disorder; and he thinks much more advantage would be obtained, if the circumstances could be precisely defined, under which it is justifiable to deprive a human being of his liberty. The practitioner's own mind must be the criterion by which he infers the insanity of any other person. It is therefore particularly incumbent on him who pretends to undertake the care of lunatics, to have a thorough knowledge of the nature, extent, and rectitude of the human faculties, in order that he may be enabled to determine when his patients are deranged, by knowing what that reason is from which they are supposed to have departed. The terms *sound mind* and *insanity* are sufficiently plain: they are opposed to each other in the same manner as right to wrong, and as truth to the lie.—Insanity is now generally divided into mania and melancholia; and as these terms are in common use, and serve to distinguish the forms under which the disease is exhibited, they are judiciously retained by Mr Haslam, whilst he strongly opposes their being considered as opposite diseases. In both, he observes, there is an equal derangement. On dissection, the state of the brain does not show any appearances peculiar to melancholia; nor is the treatment, which he has seen most successful, different from that which is employed in mania.

The description of the symptoms of the disease is a fine specimen of masterly painting. It is copied from the life; and the exactness of the drawing cannot be questioned by those who are qualified to judge of the perfect similitude. The following passage respecting a remission of insanity, which is termed a *lucid interval*, deserves the serious attention of all medical practitioners who are liable to be summoned by a jury to answer questions concerning the state of a person's mind, who has perhaps committed a crime, or made an unjust will.

> " When medical persons are called upon to attend a commission of lunacy, they are always asked whether the patient has had a *lucid interval?* A term of such latitude as *interval* requires to be explained in the most perspicuous and accurate manner. (The circumstances which probably occasioned the employment of this term, are pointed out in the chapter which enumerated the causes of insanity.) In common language, it is made to signify both a moment and a number of years, consequently it does not comprise any stated time. The term *lucid interval* is therefore relative. As the law requires a precise development of opinion, I should define a lucid interval to be a complete recovery of the patient's intellects, ascertained by repeated examinations of his conversation, and by constant observation of his conduct, for a time sufficient to enable the superintendant to form a complete judgment."—p. 45.

Two cases are related to corroborate the truth of the above definition. The degrees of rationality which madmen sometimes assume, ought to put unthinking people on their guard against remonstrating on the injustice of secluding them from society, because they conduct themselves with propriety before strangers, and in short conversations appear sensible and coherent. Numerous instances might be given of the cunning, dissimulation, and restraint which insane persons are capable of.

The memory appears to be particularly defective in cases of insanity; and Mr Haslam has furnished some valuable remarks concerning this wonderful faculty. In maniacs, as well as in persons of sound mind, the memory is the first power which decays. In many cases, where the mind has been injured by intemperance, the same withering of the recollection may be observed. Insane people, who have been good scholars, after a long confinement, lose, in a wonderful degree, the correctness of orthography: when they write, above half the words are frequently mispelt; they are written according to pronunciation. The same necessity of a constant recruit and frequent review of our ideas, satisfactorily explains why a number of patients lapse nearly into a statè of idiotism. Those have, for some years, been the silent and gloomy inhabitants of the hospital, who have avoided conversation, and courted solitude, consequently have acquired no new ideas, and time has effaced the impression of those formerly stamped on the mind.

Of the organs of sense which become affected in those labouring under insanity, the ear more particularly suffers. I scarcely recollect (says Mr H.) an instance of a lunatic becoming blind; but numbers are deaf. It is also certain, that, in these persons, more delusion is conveyed through the ear than the eye, or any of the other senses. Those who are not actually deaf, are troubled with difficulty of hearing, and tinnitus aurium.

Insanity, arising from habits of intemperance, is commonly very intractable, and accompanied by the most alarming consequences. It calls forth the just and forcible indignation of our author, whilst he animadverts upon the laws relating to lunatics.

> " To constitute madness, " (says he), " the minds of ignorant people expect a display of continued violence; and they are not satisfied that the person can be pronounced in that state, without they see him exhibit the pranks of a baboon, or hear him roar and bellow like a beast. By these people, the patient is stated only to be intemperate: they confess that he does very foolish things when intoxicated, but that he is not mad, and only requires to be restrained from drinking. Thus, a man is permitted slowly to poison and destroy himself; to produce a state of irritation, which disqualifies him for any of the useful purposes of life; to squander his property among the most worthless and abandoned; to communicate a loathsome and disgraceful disease to a virtuous wife, and leave an innocent and helpless family to the meagre protection of the parish. If it be possible,

the law ought to define the circumstances under which it becomes justifiable to restrain a human being from effecting his own destruction, and involving his family in misery and ruin. When a man suddenly bursts through the barriers of established opinions, if he attempts to strangle himself with a cord, to divide his larger blood-vessels with a knife, or swallow a vial full of laudanum, no one entertains any doubt of his being a proper subject for the superintendence of keepers; but he is allowed, without control, by a gradual process, to undermine the fabric of his own health, and destroy the prosperity of his family."—p. 79.

The next chapter, in the good arrangement of this work, contains thirty-seven cases, with the appearances on dissection; from which it is satisfactorily inferred, that madness has always been connected with diseases of the brain, or of its membranes.

Some singular histories of insane children are detailed, with interesting particulars concerning them. Two of these appear to have been mischievous idiots; they made little or no intellectual progress, and could speak only in disjointed expressions. The third case is one of a young gentleman, ten years of age, whose countenance was decidedly maniacal, and his conduct could not be explained except by considering him as insane.

With regard to the hereditary tendency of madness, which is an object of the utmost importance, both in a legal and moral point of view, Mr Haslam is enabled, from the inquiries which he has made, to state, with confidence, that where one of the parents has been insane, it is more than probable that the offspring will be similarly affected.

In considering the probable event of the disease, Mr Haslam takes the opportunity to remark, that, in our own climate, women are more frequently afflicted with insanity than men. From the year 1748 to 1794, comprising a period of forty-six years, there have been admitted into Bethlem Hospital 4832 women, and 4042 men. As to the proportion in which the females recover, compared with the males, it may be stated, that of 4832 women affected, 1402 were discharged cured; and that of the 4042 men, 1155 recovered. To show how frequently insanity supervenes on parturition, it may be remarked, that, from the year 1784 to 1794 inclusive, eighty patients, have been admitted, whose disorder shortly followed the puerperal state. Women affected from this cause, recover in a larger proportion than patients of any other description of the same age. Of these eighty, fifty have perfectly recovered. It appears from a given statement, that insane persons recover in proportion to their youth; and that, as they advance in years, the disease is less frequently cured. We may here notice the difference in the proportion of men to women

men admitted into the lunatic hospitals at Berlin and Vienna. The number of males is nearly double that of females at Berlin, as 104 to 56. And, in the course of the year 1805, 117 men and 94 women were admitted into the hospital for lunatics at Vienna.* The cause of this difference between the proportion of the sexes of patients in England and Germany, we do not profess to explain.

Patients who are in a furious state, according to Mr Haslam, recover in a larger proportion than those who are depressed and melancholy. An hundred violent, and the same number of melancholic cases were selected: of the former, sixty-two were discharged well; of the latter, only twenty-seven. Subsequent experience has confirmed this fact: and we may add, that the experience of every lunatic hospital confirms the truth of our author's prognosis, in foretelling the occurrence of idiocy in many cases of melancholy.

In considering religion as one of the causes of insanity, Mr Haslam says,

"The decorous piety and exemplary life of the quaker has signally exempted him from this most severe of human infirmities."—p. 265.

This remark, we apprehend, is not quite correct, because we have seen several quakers as completely deranged as persons of other sects; and we know that the society of quakers have established an asylum at York, which is supplied with patients almost exclusively from their own body. When the small number of quakers is compared with the whole population of the kingdom, and the proportion of insane among them is considered, we should be disposed to draw an inference the reverse of that which Mr Haslam has been led from his own experience to make. It is not difficult to account for his peculiar opinion upon this point, since he has probably not met with a single quaker as a patient at Bethlem, amidst the vast variety of cases which come under his observation; and this again may be explained from the circumstance of the quakers having an admirable institution for lunatics at York, and from their pre-eminent example of maintaining and providing for their own poor.

Under the head "*management,*" many acute and sensible remarks are inserted. Mr Haslam does not pretend to possess any secret, which has been fancifully attributed to English practitioners, for the moral management of the insane. Speaking of the effects of management on a very extensive scale, he declares, that by gentleness of manner and kindness of treatment, he has seldom

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* *Vid:* Edin. Med. and Surg. Journal, Vol. ii. p. 379—492.

seldom failed to obtain the confidence and conciliate the esteem of insane persons, and has succeeded by these means in procuring from them respect and esteem. There are certainly some patients who are not to be trusted, and in whom malevolence forms the prominent feature of their character: such persons should always be kept under a certain restraint, but this is not incompatible with kindness and humanity.

Among the remedies for insanity, bleeding is placed first upon the list, and is considered by our author the most beneficial of any that are employed. The melancholic cases have been equally relieved with the maniacal by this mode of treatment, when the patient is strong and of a plethoric habit, and where the disorder has not been of any long continuance. Purgative medicines are of great service, but the experience of Bethlem Hospital is decidedly against the frequent exhibition of emetics in cases of insanity. With respect to some other remedies, including camphor, cold-bathing, blisters, and opium, no decisive inferences are given in their favour; and as to the whimsical modes of treatment suggested by physicians, who modestly advertise themselves exclusively devoted to the cure of insanity, they are *only quoted* to expose them to the ridicule which they deserve.

It is easy to foresee that these *observations on madness* and *melancholy*, made by one of the best informed men of the age, will not easily be excelled by the plausible pretensions of the keepers of private mad-houses. The practical remarks are what they should be; they are plain, they are accurate, they are full of candour and sound reasoning, and they are founded on a very extensive survey of facts. Although the pages be shorn of their usual beams, when treating upon insanity, the metaphysical definitions, the fathers of physic, the foreign journals, and other appendages equally trifling and inapplicable; so much true learning accompanies the display of a thorough knowledge of the subject, that we have only to thank the author, and to advise the study of his book, for others to thank him also.

II.

The Pathology of the Membrane of the Larynx and Bronchia. By J. Cheyne, M. D. Edinburgh, 1809. 8vo. pp. 204.

In this volume we are presented with a republication of the author's former essay on croup, improved in its arrangement, and enlarged by some new and important observations;—with cases of bronchial polypus, and of thickening and ulceration of the membrane of the larynx; and with observations on the epidemic peripneumony of children, and on peripneumonia notha.

Having with great precision described the ordinary form of the croupy paroxysm, Dr Cheyne observes, that in the progress of the disease there are some remarkable changes, which may escape the notice of a hasty observer. These changes, however, distinguish the different stages of croup, and the degrees of danger to be apprehended.

"*1st*, There is the ringing croupy cough, (to which many children are liable upon taking cold, more particularly those who have had an attack of croup,) attended with little or no change in the breathing or the sound of the voice.

"*2d*, The unusual shrill croupy cough, with difficult breathing. The necessary supply of air is with difficulty inspired from the constriction of the passage. The voice is altered, broken, both hoarse and puling. The difficult breathing in croup has been compared to the sound of air passing through thick muslin; it rather appears like the sound of a piston forced up a dry pump. This difficult breathing varies very considerably according to the degree of stricture. It is either like the sound to which I have likened it, dry and hissing, audible in different degrees; or when the swelling and spasm of the larynx is greater, it is crowing, and sometimes creaking and suffocative. Under this extremity of difficult breathing, children are said to have perished. Any person by voluntarily contracting less or more the larynx may imitate every degree of the different breathing.

"*3d*, The cough and voice are stridulous; the respiration is difficult, laborious, creaking, sometimes suffocative, varying in the degree of difficulty and laboriousness.

"*4th*, The voice is whispering and low, the cough less frequent, and not audible at the opposite side of the room. There is the act of coughing without the sound; the respiration increasing in difficulty and quickness, laborious and interrupted."

This account of the varieties of the state of the voice, breathing and cough, which take place in the progress of croup, is no less just than precise; and when connected with the very intelligent observations made by our author on these states, becomes highly important.

"*1st*, Is a state which is rather the forerunner of an alarming attack of croup. It is often without danger. It points out the children who, when exposed to the usual excitements, are most liable to croup. It would seem sometimes to be sympathetic.

"*2d*, When with the croupy cough the breathing continues difficult, the serious attack has commenced, and the child is in danger.

From

trachea, exudation, and formation of membrane, giving occasion to the same series of symptoms, which distinguish idiopathic croup. Yet, says our author, "*whatever be the symptoms*, when the fauces are sloughy, I am inclined to think that the disease is not to be considered as a case of pure croup; and I would not admit as cases of croup, any complications of croupy symptoms with other diseases, unless these diseases, *after weakening the membrane of the larynx and bronchia*, are superseded by croup." To us it seems, that this is a very unnecessary refinement, and that it is better to say at once, that croup, though commonly idiopathic and uncomplicated, may, like other phlegmosiæ, like cynanche, ophthalmia, or pneumonia, for example, occur symptomatically in the course of other diseases, particularly of the order Exanthemata.

The operation of bronchotomy has been proposed to be attempted in the second stage of croup, seemingly, however, without a just conception of the true pathology of the disease. The inexpediency of this operation is, at any rate, very clearly made out by our author. From his observations, it appears, that it cannot be necessary for the purpose of admitting air into the trachea; for in those who have died of the disease, he has found a pervious canal, of two-eighths of an inch in diameter; and through a tube of such diameter, even an adult can support respiration for a considerable time. It is equally unfitted for the removal of the membrane; for, from its extent, variable tenacity, and adhesions, this is, in almost every case, totally impracticable; and even, could the whole membrane be removed, still the function of respiration would be but little improved, the ramifications of the trachea and bronchial cells remaining obstructed.

The observations which follow on the treatment of the croup, though short, are deserving of every attention, as being the result of considerable experience.

It is with great truth observed, that the first, or inflammatory stage of croup, generally lasts only eight or ten hours; and that in a disease so acute our means should be well adapted to the end. There appears no time for alterative means; and, therefore, bloodletting is a remedy hardly to be dispensed with at this time. Generally, he prefers bleeding from the jugular vein. When bleeding is performed at the commencement of the attack, the relief is often immediate; and he has scarcely believed that he saw the same child breathing easily, who, ten minutes before, lay gasping and convulsed.

But, although he does not appear to have yet acquired that confidence in the use of calomel in croup that some physicians place in it, we observe, that he speaks more cautiously, and upon on the whole more favourably, of its powers than he did in his former essay.

When the attack is alarming, he has never, indeed, in the first stage, given calomel a fair trial, having never trusted to it alone. In the second stage, nothing can be expected from it; and we are therefore not surprised to learn, that, though freely used in a variety of cases, all of them terminated fatally.

He observes, however, of this remedy, that " when a serious attack is apprehended, as in the croupy cough, with febrile heat, experience enables me to say, that a free use of calomel is serviceable." He thinks it applicable also to cases which arise during the currency of other diseases; to cases of the disease extending beyond the usual period, of a nature perhaps approaching to bronchial polypus; to cases where there are remarkable intermissions; and to less urgent cases, and such as occur in debilitated and scrofulous children.

Emetics are useful in every stage of croup, and are much employed and recommended by him; and in the second stage, are considered as the chief agents.

His general plan of treatment is thus summed up:—

" The means to be used when an attack of croup is apprehended, are, an emetic, a bath of between 90 and 100 Fahrenheit, a dose of jalap and calomel, and dilution.

" When the first stage is formed, we have recourse to an emetic, the bath, a mercurial purge, venesection, a blister over the sternum, calomel in doses of one, two, or three grains every hour; diluents; the antiphlogistic regimen.

" In the second stage, emetics are the chief agents."—" Half a grain of tartarised antimony, dissolved in a table-spoonful of water, is to be given to a child two or three years old every quarter of an hour, until sickness and vomiting are produced; and, in two hours after the last act of vomiting, the same process is to be recommenced, and so repeated while the strength admits." —" Blisters are applied, or the breast rubbed with oil and tincture of cantharides. Medicated vapours in diseases of the membrane of the bronchia have been highly recommended; in croup, they have disappointed my expectations. When the strength begins to flag, we use all the common cordials. One child gradually emerged from the second stage of croup, after having been in the greatest danger for three weeks; he was supported chiefly by wine and burnt brandy. As the stools are so much disordered, the state of the bowels must be attended to. The antimonial solution generally acts sufficiently on the bowels."

" There is but one indication in the first stage of croup. All our endeavours tend to moderate the increased action which prevails all over the mucous membrane.

" The bleeding, blistering, emetics, purges, and the bath, are all meant to reduce the power of the arteries, either directly or sympathetically. The mercury, however, by establishing its own influence, may be supposed to supplant that of the disease.

"In the second stage, we have various objects: 1st, We have to reduce and correct the increased action of the mucous membrane; 2dly, to promote the expectoration of the adventitious membrane and the effused fluid; 3dly, to support the patient's strength."

Of late, it has been common to distinguish two distinct cases of croup, the true and spurious, or spasmodic. The observations of our author have not enabled him to perceive the justice of this distinction. In some cases, indeed, the croupy voice and breathing have recurred in paroxysms; and when these ceased, there were intervals of natural breathing. But these, and the cases described by Dr Ferriar and others, he seems to think differ in degree rather than in kind from true inflammatory croup. The spurious croup arises from the same exciting causes, prevails during the same state of the weather, attacks the same families and the same children who are liable to true croup, invades at the same time of night, and degenerates sometimes into inflammatory croup. It requires, indeed, a less active treatment than the inflammatory or true active croup; but the general plan is the same for both. If the symptoms be moderate, bloodletting may be omitted, and the cure trusted to emetics and calomel. But it is the state of the respiration which must guide us in making this selection.

"Until the advocates for the separate existence of spasmodic croup more fully assign and establish their grounds of belief, I am convinced, that it will be for the benefit of the patient that we should act as if there were but one kind of croup; and of every mode of this disease, previous to the unequivocal formation of the second stage, that we allow the treatment to be regulated by the state of the respiration."

The case and observations on bronchial polypus have already appeared in this Journal.—See Vol. iv. p. 441.

"The symptoms induced by thickening of the membrane of the larynx, are, pain in the larynx, not very acute, unless on pressure; some degree of fulness externally; a change in the sound of the voice; difficult and severe crowing inspiration, but slow, rather than quick; an altered, sometimes stridulous voice; fits of suffocative coughing, and all those general symptoms which arise from obstructed circulation in the lungs."

Of this fatal complaint, a few very interesting cases are given; and the pathological observations of the writer are highly worthy of the reader's attention. The disease appears to be a far more common one than might be expected from the silence of most collectors.

Ulceration of the larynx, with similar symptoms, and the same fatal event, occasionally supervenes to measles and small-pox.

The next observations are on the epidemic peripneumony of children,—a very common disease, and of which we have here an excellent description.

The remedies recommended by Dr Cheyne are those used in other inflammatory affections of the lungs; vomiting, purging, bleeding, blisters, the tepid bath and diluents, repeated doses of calomel, small doses of opium after the evacuations.

In our last Number, we have seen a very different method of treatment recommended by Dr James Hamilton.

The observations on peripneumonia notha are somewhat desultory, and intended to show, that other diseases of the bronchial membrane, epidemic peripneumony, and catarrh, sometimes terminate in that disease. All the diseases, he observes, which terminate in peripneumonia notha, are attended with increased action of the mucous membrane of the bronchia. Peripneumonia notha is generally a combination of this action, with the effects of a relaxed habit and weakened organ.

To conclude, we do not think Dr Cheyne had much occasion to apologize to the purchasers of his essay on croup; for, from the numerous additions made to this, the improved arrangement of the whole, and the new and interesting pathological observations on other diseases of the bronchial membrane and larynx, this must rather be considered as a new book than as an improved edition of his former essay. Our limits have not allowed us to advert to the numerous cases, dissections, and engravings, which illustrate the text.

III.

Practical Observations on the Inoculation of Cow-Pox; pointing out a New Mode of Obtaining and Preserving the Infection; and also a Certain Test of Perfect Vaccination. Illustrated by Cases and Plates. The Second Edition. With an Appendix, containing Additional Observations, together with a Plan for Extinguishing the Contagion of the Small-Pox in the British Empire, and for Rendering the Vaccine Inoculation General and Effectual. By JAMES BRYCE, F. R. S. Edin. &c. 8vo. Edinburgh, 1809.

An Inquiry into the Antivariolous Power of Vaccination; in which, from the state of the Phenomena, and the occurrence of a great variety of Cases, the most serious doubts are suggested of the Efficacy of the whole Practice, and its powers at best proved to be only temporary. From which also will appear, the necessity of, and proper period for again submitting to, Inoculation with Variolous Virus. By THOMAS BROWN, Surgeon, Musselburgh. 8vo. Edinburgh, printed for the Author, 1809. pp. 327.

We think it necessary to notice these two works; the first as being one of the best treatises ever written in favour of Vaccination, and the last, as being the first publication which has appeared against it on this side of the Tweed. Mr Brown, indeed, goes farther, and seems to consider himself as absolutely the first who has ventured to oppose the torrent of error, originating with Dr Jenner, and carrying along with it all classes of society. "All who have wrote (written) upon the subject, have acquiesced with (in) the grand results of its author," p. 2. At least, he claims the merit of being the first antagonist of Dr Jenner worthy of notice.

"It must be confessed, that at the commencement of the practice, an opposition arose from a few individuals of the profession; but so far from thinking that it was inimical to the new practice, I am convinced that it contributed not a little to increase its reputation, and to extend its influence. Their arguments, in general, were deemed weak, their assertions unqualified, their facts few and insignificant, and upon the whole (their facts?) conducted with such a total want of the true spirit of inquiry, as, hitherto, not to be considered as any exception to the general rule. They not only gave an easy victory to their opponents, but contributed to the total extinction of all opposition, by creating a terror, in every liberal mind, at being blended with such a *contemptible minority.*"

What the Moseleys, the Squirrels, the Rowlies, the Birches, the Lipscombs, and the great grandson of Charles the Second will say to this, we know not; but leaving the antivaccinists to revenge their own wrongs, we shall proceed to the proper subject of this article, which is not so much to appreciate the merits of Mr Bryce and of Mr Brown, or their works, as to inquire whether vaccination still deserves the confidence we have on former occasions expressed in its antivariolous power, or whether the writings of Mr Brown and others have convinced us, that we were deceived by appearances, and misled by ignorance and prejudice.

Before entering into the consideration of this question, we shall briefly notice, that all parties agree that the cow-pox is not contagious, and that it is a much milder disease than even inoculated small-pox. Nay, Mr Brown, although he gives us to understand that he was a very successful variolator, and has humanely disclosed his method of frequently rescuing variolated patients as it were *articulo mortis* (p. 30.), says, when laboriously proving that cow-pox is not small-pox,

> " Small-pox have been known in this country for a thousand years, and how long in other quarters of the world is uncertain: They are also universal; are a disease of the most severe, loathsome, and dangerous description; highly contagious; and admitting of no other variety, but in the severity of their symptoms, and always retaining their characteristic phenomena.—Whether propagated by contagion, or by inoculation, they almost uniformly produce considerable fever, and other distressing symptoms, which are also, to a greater or less extent, followed with a characteristic pustular eruption."

But the immense superiority of cow-pox over small-pox in these respects would be perfectly nugatory, if it did not protect us effectually and permanently against the latter disease. Mr Bryce and the majority of the profession assert, that it does, and the public have the strongest possible proof of their sincerity, in the vaccination of their own children, and in the voluntary renunciation of great professional emoluments, although Mr Brown has thrown out an unintelligible insinuation, " that the motives of its greatest advocates are not more disinterested than those of its greatest enemies."—p. 8.

One set of antivaccinists, on the contrary, contended, that the cow-pox had no antivariolous powers whatever. But the fallacy of this opinion has been abundantly proved by the immense number of those vaccinated in all parts of the world, who have resisted repeated inoculation and exposure to small-pox infection, under circumstances the most favourable for its action.

Another set, equally hostile to vaccination, but unable to controvert the fact just mentioned, alleged, that this security was merely temporary; at first, they contended that it would wear out in the course of a year or two; and now, when this opinion also has been overthrown by experience, Mr Brown, shuddering at the dreadful and distressing idea of " what may *not* be the consequence, at the distance of twenty or thirty" years, extends the term of security to five or six years, when he says it will certainly expire; and, after daily increasing experience shall have shown that this opinion is as groundless as the former, another more provident antivaccinist may prolong the term to sixteen or sixty years. We shall state Mr Brown's creed in his own words, lest we should be accused of misrepresenting it; for we do not pretend always to understand him.

him; and we are aware, that very different opinions are stated in other parts of his book. His inferences relating to this subject, from his experience in vaccination, are:

"1. That they afford grounds for concluding, that the antivariolous influence, directly after vaccination, is to be considered as *nearly* perfect.

"2. That in proportion to the distance from the period of vaccination, the antivariolous power is *proportionally* diminished.

"3. That about three years after vaccination, the constitutional influence is so much diminished, as readily to allow the operation of the variolous contagion, but still exerting a considerable effect, in *mitigating* the disease.

"4. That at the distance of five or six years from vaccination, the facility is so much increased, as hardly to impart *any* security, and so much diminished in its powers of *mitigating* the disease, that, at this period, the cases very nearly approach to the most common form of the distinct disease.

"5. That the eruptive fever, and all the other peculiarities of small-pox, increase in severity, and assume the characteristic phenomena, according to the foregoing rule, so as to *approach* to the natural disease.

"6. That the period of security, as well as the severity of symptoms, are evidently influenced by the *manner* in which the contagion is applied.

"7. That the powers of variolous contagion are evidently increased by the accumulation of individuals, although not attended with small-pox eruptions, and also, in proportion to the number of cases, and extent of eruption.

"13. That the cases of re-inoculation exactly correspond in their effects with the influence of the epidemic disease, always making a nearer approach, both to the external characters of an inoculated pustule, and to the constitutional affection, exactly in proportion to the distance they are removed from vaccination.

"14. They also distinctly show, that there is a material difference betwixt the powers of the small-pox contagion, exerted in its epidemic form, and when imparted by inoculation.

"15. These cases, and the whole phenomena and circumstances of vaccination, show, that there are just grounds for concluding, that a specific action may exist, *minus*, or *negatively*,* in the constitution;

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* As we really do not understand this *mathematico-pathological* doctrine, and as it appears to be extremely profound, we wish that Mr Brown had enlarged upon it a little. It only occurs again in the following luminous passage: "Although, for the reasons already given, I consider the areola as a decisive test of a constitutional effect, yet, as we have strong reasons for supposing that a specific action may exist *minus* in the constitution, I would rather recommend waiting until a distinct constitutional effect can be obtained, which, I am inclined to think, will be found pretty uniformly to follow about the sixth year from vaccination." p. 300.

that therefore it would be improper, in the event of vaccination being found inadequate to maintain its antivariolous character, to re-inoculate those cases which have previously undergone vaccination, before it was capable of producing a distinct constitutional effect.

"*Lastly,* That they afford strong grounds for concluding, that this distinct constitutional influence cannot be depended upon to take place, sooner than about six years from vaccination."

In refutation of this doctrine, it might be sufficient to quote the following passage from Dr Willan: "I will not repeat the arguments from analogy, which have been employed by several writers, in answer to the opinion that vaccine inoculation is only a temporary preventive of the small-pox. The supposition does not rest upon either probable or consistent grounds, as the cases of variolous eruption, adduced above, took place, *without any certain order, from five months to seven years after vaccination;*" p. 66. But it is worth while to try Mr B.'s doctrines by his own experience, admitting, for the sake of argument, the *correctness* of his statements, in order to ascertain whether Mr B.'s inferences could be logically and fairly drawn from his premises.

There are three sets of cases; 48 which he designates cases of small-pox succeeding to vaccination; 12 cases of inoculation after vaccination; and 4 cases of small-pox conjoined with vaccination. The last class, although illustrative of a curious though well known fact in the history of vaccination, has no reference to the point at issue, as the small-pox infection preceded or was simultaneous with the vaccination.

With regard to the second and third sets of cases, they are decidedly against Mr Brown's doctrine and inferences, so far as we are able to collect these from the mass of contradiction and absurdities in which they are involved. In one place, p. 293, we are told "that it (vaccination) is incapable of influencing the system in a *regular or positive manner*; that many of the phenomena of the disease resemble those produced from matter having no specific influence; that *in general* its effects, so far as they can be observed, are *merely local*; that no one certain criterion exists, of the attainment of constitutional vaccination; in short, there is not one circumstance belonging to the subject, void of confusion, uncertainty, and contradiction."

But Mr Brown's favourite doctrine, if we comprehend it, is, that this vaccination, whose effects are *in general merely local*, *invariably* exerts a *constitutional* effect; and that, although incapable of influencing the system in a *regular* or positive manner, its antivariolous powers are at first nearly perfect, but gradually and *regularly* decay, exactly in proportion to the distance from the period of vaccination.

We are now to speak of the effects of inoculation after vaccination, as proving or disproving Mr Brown's assertions and hypothesis. Mr Brown, like all prudent practitioners when they first ventured upon vaccination, satisfied himself of its efficacy by subsequent inoculation with variolous matter.

"When I commenced the practice of vaccination, in common with most practitioners, I inoculated them a few weeks, or months, after. This I continued to do, to the extent of thirty or forty cases, when, finding the appearances nearly similar, I desisted.—In none of these trials *were* there ever the smallest appearance of a pustule, but frequently the point of the tumor presented the appearance of a small shining watery vesicle. In *no* case *were* there the smallest show of a circular inflammation, or areola, and *no* constitutional affection whatever.

But satisfied as he was with the results of these 30 or 40 cases, (for he became an early convert and advocate for the new practice, p. 12.), we are told in the very next page, that, from the appearance which took place on inoculating his very first vaccinated patient, his conviction of its security was not a little staggered; that he suggested his doubts of its being a complete antidote, and that he has since, from all the trials, experiments, and practice he has had, seen no cause to change his mind.

Again in page 260, and not very consistently, (but that is nothing to Mr Brown), he says, "*neither* in inoculation after smallpox, *nor* even for some time after vaccination, *or* in re-vaccination itself within a certain period, we *cannot* produce the *smallest approach to a pustule or vesicle.*" But we are told, in page 256, although it would be endless if we were to attempt to trace Mr B. through all his mazes of inconsistency,

"On the contrary, if you inoculate a person who has undergone vaccination only a few weeks before, you will almost uniformly obtain a large, highly elevated, and inflamed tumor, having a vesicular point, *sometimes distinctly approaching, if not to a pustule, at least to a vesicle,* but with no areola, which, after continuing for nine or ten days, will gradually decay, seldom leaving a scab, and never followed, or attended, with any constitutional derangement."

Now, leaving our readers to discover at their leisure the exact result of Mr B.'s inoculations soon after vaccination, which, 'sometimes distinctly approaching, if not to a pustule, at least to a vesicle, have not the smallest approach to a pustule or vesicle,' we proceed to examine his cases of inoculation at a more distant period from vaccination. They are in number 12; six of them were inoculated upwards of five years after vaccination, and six of them within that period; of course, according to Mr B.'s hypothesis, the effects should have been much more considerable upon the former than upon the latter: but, from a careful perusal of these cases no such inference can be drawn.

Had Mr Brown reinoculated some of those thirty or forty cases, which he had inoculated soon after vaccination, eight years and a half before his publication, he would have fairly brought his hypothesis to the test of experiment, and we should not now have had the trouble of refuting it. That they would have resisted the infection, there cannot be a doubt; especially when we consider that he is obliged to acknowledge that he has not "hitherto met with any cases where small-pox has occurred after undergoing the test of inoculation" (p. 301), although his patients chiefly resided in a parish, where, according to his calculation, one in eight of those vaccinated upwards of four years (p. 295) before, has been since affected with small-pox.

But Mr Brown not only draws this inference from his own cases, but, by a most strange species of logic, pretends to draw the same conclusions from Dr Stanger's experiments, which in the opinion of Dr Stanger, and of every person of common understanding, prove exactly the reverse. In November 1804, twenty children, who had been vaccinated in 1801, and afterwards variolated in 1802, were a second time inoculated with matter taken from a child labouring under the natural small-pox. Mr Brown chooses to say of this decisive and incontrovertible experiment—

"Now, I apprehend, from this description, although a very imperfect one, it clearly appears, that what I have elsewhere contended for is strikingly corroborated; for in those inoculations, which included only periods of some months, to that of twelve, *only a very trifling effect*, such as I have already described, was produced; but when it came to be repeated, at the distance of two or three years, not only did the previous inoculation afford no additional obstruction to the progress of the second inoculation, but now *a greater inflammation, and even pustules*, were produced; distinctly showing, that the immunity from small-pox was much weakened, by the increased distance from vaccination."

Though Dr Stanger could have foreseen the possibility of such a misrepresentation, he could not have been more cautious in his language, in order to convey the perfect identity of effect from both inoculations.

Effects in 1802.	Effects in 1804.
"In *most* of these cases, the puncture presently healed; in *some*, slight inflammation was produced; and, in *three* or *four* of the cases, there appeared a small acuminated pustule, which, after some days, was succeeded by a slight scab, no constitutional disorder having intervened."	"The result of this trial, made three years and a half after vaccination, confirmed its preventive power. The only effects produced were slight inflammation about the puncture in *some* cases, and in a *few* others, a small local pustule, which soon disappeared."

We have been more particular in exposing the fallacy of Mr Brown's statements on this subject, because he was with more boldness than prudence challenged contradiction. "I have little hesitation in referring the decision of the whole question to this fact, which is almost within the power of every practitioner to obtain, when *I trust* it will be distinctly found, that in proportion to the extent of the period from vaccination, so will the approach be nearer to the appearance and effects of perfect vaccination." Surely Mr Brown forgot that he was professing to write to his professional brethren. Did he imagine that they were ignorant that this very question, on which he seems to pride himself so much, had been set to rest long before his most *original* publication appeared?

The next class of cases is by far the most important, and deserves the most minute investigation. Of the forty-eight stated by Mr Brown, eighteen were vaccinated by himself, and thirty by other gentlemen of the profession; the village smith, the mothers of the patients, and in one case, as Mr Brown has stated it, by the patient herself, a child of five years of age, (p. 195.)

But for the sake of argument we shall allow Mr Brown the full advantage of his thirty cases, and take the trouble of analyzing them. In sixteen of them, more than five years elapsed between the vaccination and the reputed small-pox; in eight, between five and three years; and in six, less than three years. In the first place we may remark, that these last six cases prove too much, and do not accord with Mr Brown's hypothesis, which supposes the temporary security of vaccination to last about three years; and in the next place, we find that the whole series directly contradicts Mr Brown's favourite idea, that, after five years, vaccination loses even the power of mitigating subsequent small-pox. Instead of the small-pox contagion producing regular small-pox in the sixteen, and modified small-pox in the eight, we find that in one of the former, (Case XVI.), there was no eruption whatever; in two (Cases XX and XXI.), the eruption was "neither so numerous nor of so long standing," as in one where the pustules were about 100, "came to very little suppuration, and decayed about the fifth or sixth day;" and in seven (Cases VII, XXVII, X, XIX, XXIII, XXXIII, XI, and XV), they decayed in five or six days; while, in five cases only, (XXIX, XXXVIII, XXXI, XXXII, and XXXVII), did the pustules remain seven or eight days. On the contrary, of the eight cases, which should all have been modified small-pox, two (XXII and XLIII) had regular pustules, and two (XXX and XLV) had no eruption whatever; and, lastly, of the six cases which, according to his hypothesis, should have been unsusceptible of small-pox infection, or only of a very mitigated degree of it, two (V. and VI.) had it in the most perfect form.

We must at least give Mr Brown credit for his candour in stating facts which so completely overturn a favourite hypothesis, although we may not admire his judgment in forming it.

Of the eighteen cases of small-pox after vaccination, stated to have occurred in his own practice, the exceptions are not so numerous, but more than sufficient to show, that his hypothesis is totally unsupported by facts. Eight of these had been vaccinated more than five years before the appearance of the small-pox, and yet in three of them, (Cases XXVIII, XXXIV, and IX.) the pustules decayed in five or six days; whereas, of the ten vaccinated less than five years, also three (Cases III, XVIII, and XLII.) had full crops of pustules, not decaying until the 7th or 8th day. So that the aggregate experience adduced by Mr Brown in support of his hypothesis completely proves, that the antivariolous influence of cow-pox, in mitigating subsequent small-pox, if it have any such effect, does not gradually diminish, and does not at all depend upon the length of time which intervenes between vaccination and exposure to variolous infection.

Neither does the susceptibility of receiving small-pox infection gradually return after vaccination, so as to impart hardly any security after five or six years, and readily to allow the operation of variolous contagion after three years; for Mr Brown tells us, that in the course of the last eight years and a half, he has vaccinated about 1200, of whom, on the fair supposition that he vaccinated the same number every year, 450 or 500 should be absolutely devoid of security, and 300 others liable to mitigated small-pox from infection; and yet, although small-pox has raged epidemically in the district in which he practises, he has been able to muster only eight alleged cases of small-pox after vaccination among the former, or one in fifty or sixty; and ten among the latter, or one in thirty. Mr Brown's own statement of his experience, then, would warrant us in concluding that the antivariolous influence of cow-pox, as to susceptibility of infection, so far from diminishing, actually increases after five years.

So much for the consistency of Mr Brown's inductions with the facts from which he pretends to have drawn them; we now proceed to inquire whether these militate in any way against the antivariolous power of cow-pox. In combating Mr Brown's hypothesis, we admitted, for the sake of argument, that all his facts were correct, and that they were all cases of small-pox after cow-pox; but it will not be difficult to show, that this was by no means the case.

Before we admit facts so contrary to general experience, we must be satisfied with their accuracy, especially if there be any reason to doubt that they have been misunderstood through ignorance, or misrepresented through prejudice, or what Mr Brown calls, the rage for systematizing. The proof that small-pox supervened in these cases rests entirely upon our faith in Mr Brown's accuracy of observation; and the proof that they were previously sufficiently vaccinated, rests partly upon his own observation, but, in a majority of cases, upon hearsay evidence collected by him. This last kind of evidence, when it is inconsistent with our own observation, is totally unworthy of attention. It is liable to a double objection. It is equally inadmissible, if there be reasonable grounds for doubting the accuracy either of those who originally made the observations, or of those by whom these observations are reported at second hand. So jealous is our criminal jurisprudence upon this subject, that it rejects hearsay evidence, even when there is no reason to doubt the accuracy of the witness.

Mr B. admits, that the failures chiefly occurred in the lower classes of society, nay, that hardly one instance has yet occurred where small-pox has succeeded to vaccination in the higher and more respectable classes of society, (p. 301.); and he has been at the trouble of attempting, though very unsatisfactorily, to account for this unaccountable circumstance. Now, without calling the veracity of these poor people in question, we are but too well acquainted with their instability and apathy; with the difficulty of getting them to bring their children for regular inspection after vaccination; and with the facility with which their ignorance, their prejudices, and their fears, may be worked upon. Nay, we will even go one step farther. Mr Brown himself seems conscious that their reports as he has stated them, were not generally accurate. For what other reason could he have "carefully avoided any communication with the different practitioners by whom the children were vaccinated?" Had these gentlemen corroborated the evidence of the parents, Mr Brown's opinion would have derived such an additional support, that we cannot suppose him to have acted so absurdly as to neglect it; but he well knew, that their evidence would have been adverse to his views; and the motive which he has not blushed to avow for neglecting or withholding it, is an aggravation of the indelicacy and impropriety of his conduct.

"It is perhaps proper to notice, that I carefully avoided having any communication with the different practitioners by whom the children were vaccinated; being aware of the strong hold that system has upon the human mind, more especially in this very important subject; thinking it best for the attainment of truth, to state with the greatest possible accuracy, the parents' account of the circumstances that attended the vaccination of their children; notice the appearance of the arm; and give the names of the families, whereby an opportunity is afforded to any of the practitioners to satisfy themselves."

Such is the line of conduct best calculated, in Mr Brown's opinion, for the attainment of truth. And does this gentleman complain of the vaccinists stifling inquiry, and being averse to facts? Does this gentleman expect his uncorroborated evidence to be believed; this gentleman, who acts so disingenuously towards his professional brethren; who goes about influencing the minds of their patients, taking advantage of their fears, and their weakness, and their ignorance; who, in a pretended investigation of truth, insults his readers by wilfully suppressing or neglecting to procure the best information in his power; this gentleman who, in the very act of supporting a darling hypothesis, does not scruple to insinuate that his professional brethren are not to be believed, because, forsooth, system has a strong hold on the human mind?

But not only does Mr Brown's rage for multiplying cases of small-pox after cow-pox lead him to the disingenuous practice of stating many on the authority of ignorant parents, without consulting the practitioners concerned, but even some (Case VI.) in direct contradiction to the phenomena, and to the opinion of the practitioner expressed at the time.

How many of the individuals, the subjects of these pretended cases of small-pox after vaccination, were not duly vaccinated, we have no means of estimating; but that the number was considerable, we are convinced, both by the suspicious nature of the evidence with regard to thirty of them, and by the doubts suggested with regard to the whole of them, by Mr Brown's misapprehension or misrepresentation of the phenomena both of vaccination and of variolation. With his usual inconsistency, Mr Brown contends, that experience in vaccination is of no use in enabling us to judge more accurately of the phenomena, (p. 234); and that every old woman is equally capable of ascertaining when vaccination is perfect as Dr Willan or Mr Bryce; but that, if any practitioner has not had experience in variolation, "he is incompetent either to conduct or judge of vaccination, *singly* or *comparatively*," (p. 236). While we hope and trust, that, in the next generation, thousands will be capable of conducting and judging of vaccination *superlatively*, who have no experience in variolation, let us see what advantages Mr Brown has derived from his boasted experience. "In conformity, then, both with my own experience of the phenomena of inoculation and vaccination, I contend, that if you have a vesicle, attended with an areola, you may depend upon the production of whatever effects it (i. e. vaccination or variolation) is capable of," p. 236.; and a little before, "nobody ever dreamed of reinoculation where the pustule and areola were obtained," p. 236. If Mr Brown was satisfied with these proofs of constitutional affection from inoculation with small-pox matter, we must say, that he appears to have been very careless of the welfare of his patients. We could quote numberless cases of pustules with an areola from inoculation not protecting the constitution against future small-pox; for example, those of Mr Dawson, Mr Kite, &c.; but it is sufficient to refer to the case of S. C. related in a note, page 303, of Mr Brown's own book.

Here we have in the subsequent constitutional small-pox an irrefragable proof, that the preceding vaccination and variolation produced only local affections; that contrary to Mr Brown's assertion, local cow-pox and local small-pox, even with a considerable areola exist; and that, as he was ignorant of the difference between local and constitutional cow-pox, it is not at all surprising that his practice in vaccination should have been so unsuccessful.

In like manner, he has admitted, as evidence of the occurrence of small-pox, what every person, in the least acquainted with its phenomena, will at once reject. To give some colour to his considering the production of a local pustule as a proof of the deficiency of antivariolous powers, he roundly asserts, that it cannot be produced once in a thousand instances, after previous small-pox, whether natural or inoculated; whereas, the reverse is so notoriously known to be the fact, that country practitioners have occasionally kept up a series of local pustules on their wrists, to preserve a supply of recent variolous virus. Mr May has recorded a proof of the fact in his own person; and Dr Willan, speaking of the 10th figure of his first plate, says, "The drawing was made from the inoculated arm of a young woman, who had had the small-pox fourteen years before, in order to compare it with the appearances on the arm of my own son, when inoculated with variolous matter three years after vaccination. His pustules, however, so nearly resembled the above, that I thought a repetition of the drawing unnecessary."

If, in none of Mr B.'s cases, except perhaps the eleventh, the proofs of the production of constitutional small-pox be sufficient, what are we to think of his knowledge or candour, in bringing forward, as instances of small-pox produced by inoculation after vaccination, cases in which there was neither sickness, nor rash, nor eruption produced! There is one, indeed, in which he was informed, that the child *sneezed* repeatedly, and, poor thing, it only drank tea to breakfast. The mother and the maid, indeed, attributed these alarming symptoms to cold; but, what is the opinion of two ignorant women, in opposition to a doctor's, whose penetrating genius has discovered so many new varieties of small-pox, which nobody before him ever dreamed of?

Such are his proofs of the production of small-pox by inoculation. His proofs of the occurrence of natural small-pox are not more substantial. Of his forty-eight cases, the eruption in seventeen subsisted for seven or eight days, in seventeen others for five or six days, in six for less than five days, and in eight, there was no eruption whatever, but only sickness, with, perhaps, a slight rash. That many of the first seventeen, and perhaps some of the others, were really small-pox, there is little doubt; but that all of these cases were so, as Mr Brown maintains, we positively deny. He contends, that they were not the bites or stings of insects; that "small-pox were epidemic in every direction, and even existed under the same roof, with the most characteristic phenomena; none of the children of the family affected but those who had been vaccinated; and neither chicken-pox, nor any other eruptive disease were known in the whole neighbourhood," p. 225. He also contends, that, with regard to confounding them with chicken-pox, no practitioner of moderate experience can possibly commit a mistake; and to prove this, he subjoins a description of chicken-pox, which is very well contrived for the purpose he has in view. So far we could only criticize Mr Brown for giving a very partial and incorrect description; but when we find him attempting to corroborate it, by the high authorities of Heberden and Willan, and subjoining, as quotations from these classical authors, what they never wrote, we are in duty bound to expose such conduct, to the reception which it merits. As our charge is strong, and affects our confidence in all Mr Brown's statements of the opinions of others, and of his own observations, we are called upon to prove it in one case. In page 224, the following passage occurs in a note:—

> "Dr Willan remarks: That variolous pustules are, on the first and second day, small, hard, globular, red and painful, and indented in the centre; the varicella exhibits, on the first day of eruption, small red protuberances, not exactly circular, and having a flat shining surface, in the centre of which is a vescicle, of a greater or smaller size, which about the third day is either ruptured or shrivelled, and if attended with much inflammation, and remain entire, seem to contain a little purulent matter, and by the fourth, have obtained a small pointed dark scab. These appearances fully characterize varicella, and distinguish it from the firm and durable eruption of small-pox."

Now, on referring to Willan, it will be found, that this pretended continuous extract is not simply garbled and mutilated, but is absolutely fabricated. It consists of two lines from the 95th page of Willan, then a phrase of Mr Brown's, then a mutilated passage from the 87th page, then a long ungrammatical addition to it of Mr B.'s composition, and, lastly, a short sentence from the 95th page again! When such liberties are taken, when the inaccuracy is easily detected, and the perversion of the sense of a living author will unquestionably produce exposure, Mr B.'s uncorroborated testimony must be received with caution, whether he presents himself to us as an observer, or as the historian of the observations and opinions of others.

But to return from this digression, into which we were naturally led, by the strange manner in which Mr B. has quoted Dr Willan's description of chicken-pox, we may observe, that the diagnosis between that disease and small-pox is by no means so easy as Mr B. has chosen to represent it. Much praise has been given to the simplification of nosology in modern times; but, on many occasions, we are afraid it is carried farther than observation warrants. Were we to admit no case to be small-pox, except those which accorded exactly with the definitions of it in systematic writers, we should reject not only, as we certainly do, Mr Brown's cases of pimples of two or three days standing, of rash, of sickness without any eruption, and of sneezing, but every case in which the eruptions did not subsist seven or eight days, and maturate completely; and, on the other hand, some kinds of chicken-pox, so far from always resembling little blisters, and bursting in twenty-four hours, as represented by Mr Brown, even he must have known, from the very description of Dr Willan, which he has pretended to quote, subsist for several days, become purulent, and leave a pit behind them. We must quote the passage, to contrast it with Mr Brown's edition of it. "On the third day, the vesicles are shrivelled; those which have been broken exhibit at the top slight gummy scabs, formed by a concretion of the exuding lymph. Some of the shrivelled vesicles which remain entire, but have much inflammation round them, contain, on this day, purulent fluid. Every vesicle of this kind leaves, after scabbing, a durable cicatrix or pit!" When to this we add, that, in most cases of chicken-pox, successive crops of eruption take place for several days, it is evident how little we can trust to Mr B.'s diagnosis, who will allow no eruption to be chicken-pox which subsists longer than twenty-four hours, and who will have every thing to be small-pox which is not this ephemeral chicken-pox. In his fourth case, for example, "no eruption made its appearance, although there was a rash for about twenty-four hours." In the fourteenth, a rash made its appearance,

ance, followed with a few pustules, which kept out three or four days; and, in the seventeenth, there was a rash, but no eruption. Such are, in Mr B.'s opinion, decided cases of natural small-pox!

Mr Brown's cases, admitting some of them to be accurately stated, at the utmost only prove, that cases of small-pox have occurred after *apparently* perfect vaccination; an admission publicly made by the most zealous vaccinists, and repeatedly quoted by Mr B. from their reports, with his usual accuracy. His uniform omission of the qualification *apparently*, and his final substitution of *sufficient proof of the most perfect*, p. 276, need no comment.

The occasional occurrence of these cases must be regretted. They are owing partly to inattention on the part of the practitioner, and partly to the actual difficulty of distinguishing local from constitutional cow-pox. This difficulty, however, is not so great as to constitute a serious objection to the practice of vaccination. It may be completely obviated by the very simple and *unerring* test first proposed by Mr Bryce, but which Mr Brown completely misunderstands or misrepresents. As much nonsense has been written about it, we recommend our readers to peruse the account of it given by Mr Bryce himself, in the fifth section of his work, and in the eleventh appendix. They will be gratified with the philosophical and successful application of pathological knowledge to practical utility.

The striking fact, that these failures have chiefly occurred in the practice of certain individuals, such as Mr Brown, and that they are unknown or very rare in the practice of others, also proves, that they may, in a great measure, be obviated by proper attention, and that they only occur after *local* vaccination. Mr Brown has indeed given us a different explanation of this fact, and it is really too curious to be omitted. It amounts to this:—Gentlemen at the head of the profession do not meet with cases of small-pox after cow-pox, because these occur only among the poor! while those who have most practice among the poor, never hear of failures, because the poor never complain! Mr Brown, indeed, despises the evidence of hospital practice. Now, we are decidedly of opinion that it is the most conclusive, when conducted as at the Public Dispensary of this city.

"Two of the surgeons attend on duty regularly every Wednesday and Saturday at one o'clock, for three months, and are then relieved by the other two, who attend in the same manner for an equal period. The persons applying for inoculation are put into one apartment, and those who return for examination, after being inoculated, are put into another. The names of the children to be inoculated are then marked in the first column of a small octavo book kept for the purpose, each page of which is ruled with five lines, making four columns, from top to bottom, immediately after the names. This part of the business being finished, the surgeons next proceed to examine the arms of those children who have been inoculated. When the affection is advancing regularly, an A is marked in one of the columns of the book opposite the name of the person examined; if the affection be dubious, D is marked; and if it has failed, an F is marked, and the name is again inserted in the list of the day for inoculation, with a line drawn under it as a mark of re-inoculation. If these examinations have been made on the first day for attendance after inoculation, the letter as above mentioned is marked in the first column; if on the second or third day, it is marked in the second or third column accordingly; and if on the fourth day, *i. e.* on the fourteenth day after inoculation, and if it be observed that the person has been brought back regularly for examination, the words "Dismissed regularly," are marked opposite the name in the fourth column."

Here the facts are duly and regularly noted. Nothing is trusted to memory. There is no room for subsequent shaping and squaring of observations and opinions to suit favourite hypotheses; no possibility of evasion. By the public record, vaccinists and antivaccinists must abide; and in the institution 10,000 have been vaccinated, without one of those regularly dismissed having been attacked with small-pox.

Contrast this with Mr Brown's practice, in which we must remark, and not without regret, evident proofs of carelessness and inattention. We should have expected, that, when engaging in a subject so new to him, so contrary to all analogy as vaccination, a prudent man, zealous for the discovery of truth, would have kept some record of the most remarkable appearances as they occurred; and, in particular, that he would not have neglected to note, at least in his day-book or ledger, the final result of the operation; and we should have expected this the more from a person who was led to doubt the efficacy of the practice from the very first case which occurred to him, and has continued to doubt it until his doubts have, at last, increased to certainty. But no such thing. The whole evidence is "according to my own recollection—from my memory—from my opinion expressed at the time—from the *large* mark in the arm—the mother's *report* of the appearance of the arm—the mother remembers," &c. &c.; so that, in fact, the value of his own cases is reduced to mere hearsay evidence; for that any man in such extensive practice as Mr Brown, riding over a whole county, who has inoculated 1200 patients in eight years and a half, can, after five or six years, remember exactly what took place in each of them, surpasses all belief. We should also wish that Mr Brown had noted particularly the number of visits *he* paid to each, as well as the period of these visits; for we are not so ignorant of the nature of country practice, as not to know, that, from the great distance to which it extends on every side, it is impossible that the visits can be very frequent or regular, or that even the most charitable practitioners can at times avoid trusting the poor to the care of very inexperienced and careless apprentices.

His argument, derived from the absurdities he imputes to the vaccinists, and the contradictions and inconsistencies he has discovered in their writings, will not detain us long. Because the vaccinists are not unanimous on every point, and in all their opinions; therefore, all of them are wrong, and all that has been written on the subject is absolute nonsense! As well might he contend, that there is no such country as China; that Queen Mary never lived; and that the battle of Talavera was never fought. Such an argument is truly ridiculous, coming from one who totally disregards consistency in his own writings, and it is something worse than ridiculous in so inaccurate a historian of the observations and opinions of others. We may also remark, that Mr B. in making his quotations, very rarely, indeed, favours us with a reference to the page of the authors whom he quotes,—a practice which, though never commendable, may be politic; and, accordingly, we have in vain examined the publications of Dr Jenner, or, the Doctor, as Mr Brown very politely designates him on most occasions, of Mr Bryce and others, for opinions and inconsistencies imputed to them by Mr Brown. By his method of tacking together shreds and patches from remote pages, any writer may be made to say any thing: Even whole sentences, when disjoined from the context, may become unintelligible, or convey a different meaning; but we cannot deny to Mr Brown the singular merit of composing entire paragraphs, which, when read by themselves, are downright nonsense.

"28. The college also concludes, that *they* are *equally* safe from the epidemic small-pox, *as well as* from the inoculated; and observe, that towns and villages have resisted the natural small-pox. *They* scout the idea of *its* being only a temporary security, not only upon the grounds already before them, of a practical nature, but also from analogy, *of* which they add, that there is nothing similar in nature."

Before we take our leave of Mr Brown, and we can assure our readers, that we are as heartily tired of him as they can possibly be, we must say a word or two to his dedication, which is certainly *unique* in its way. It is a clumsy attempt to impose upon the public, by means which will not be easily justified; to recommend his book to notice, by violating the confidence of professional intercourse, and complimenting an eminent and enlightened practitioner upon an opinion the very reverse of the deliberate result of his investigation.

It may perhaps be gratifying to Mr Brown to know, that we believe his book will create a very lively sensation, and that it will do much harm, not by the extent of its circulation, as he will be convinced when he reckons with his printer, or by the contents of the book itself, for it neither will be read nor understood; but by the industry with which it has been advertised, and by the fear and misery the poison of its title, unaccompanied by the antidote contained in the work itself, will excite in the minds of those, to whom it is enough that a book has been written against vaccination. This evil, however, we trust will be but transitory; for at least we agree with Mr Brown in his motto, "*Magna est veritas et prevalebit.*"

We could now enter with much pleasure upon the discussion of some of the interesting subjects suggested by the perusal of Mr Bryce's Practical Observations; but as this article has already been extended to an excessive length, we must refer our readers to the work itself. Besides being an improved edition of one of the best treatises ever published on vaccination, for general use, it is enlarged to almost twice its original size by a very valuable and interesting appendix, comprising the following articles:

1. Farther observations on the origin of the cow-pox.
2. Of the action of vaccine virus on the human body during the presence of other constitutional morbid actions.
3. Farther observations on the superiority of the cow-pox over the small-pox.
4. Additional testimonies of the efficacy of the cow-pox as a preventive of the small-pox.—Progress of vaccination in France, Spain, Germany, Denmark, East and West Indies, &c.
5. Outlines of a plan for extinguishing the contagion of the small-pox in the British Empire, and for rendering the vaccine inoculation general and effectual.—Bill as amended in the committee of the House of Commons for preventing the spreading of the infection of small-pox.—Objections to that bill.—Objections to the clergy of Scotland engaging generally to conduct vaccination.
6. Examination of the proofs adduced by Dr Adams to show the identity of the variolous and vaccine poisons.
7. Of inoculating persons for the cow-pox who are affected with other eruptions, &c.
8. Farther observations on the modes of preserving the vaccine infection.—Observations of the Indian inoculators in favour of the vaccine

vaccine crust—Disadvantages attending some of the modes which have been proposed.

9. Of performing the operation of inoculation, and of preparing the infection after it has been kept for some time in a dry state.

10. Concerning the local and constitutional action of the infection of cow-pox—Of the term of "spurious cow-pox"—Of the irregular vesicles of Dr Willan—Arrangement of the terminations of inoculation for the cow-pox.

11. Concerning the test of perfect vaccination which is obtained by performing a second inoculation during the course of the first—Refutation of the objections made to it—Of the test proposed by Dr George Pearson, and recommended by Mr George Bell—Of inoculation with the infection of small-pox as a test of perfect vaccination."

We may take a future opportunity of communicating our sentiments upon some of these subjects, especially the propriety of legislative interference, the extent to which it is admissible or expedient, and the advantages rationally to be expected from it.

IV.

Tableau Méthodique d'un cours d'Histoire Naturelle Médicale, où l'on a réuni et classé les Principales Eaux Minérales de la République, indiqué les lieux où elles sourdent, leur température, les substances qu'elles contiennent, leurs vertus, leurs usages, leur degré de bonté, de célébrité, etc.; ce qui n'avait été fait jusqu'ici dans aucune matière Médicale. Par Bernard Peyrilhe, Professeur d'Histoire Naturelle Médicale, à l'Ecole de Médecine de Paris. 8vo. Paris, An vii. de la République.

Our readers will have a perfect idea of this work, when they are informed, that it is a free translation of Linné's Materia Medica, with such additions and improvements as M. Peyrilhe thought necessary, to adapt it as a text for his lectures. These are pointed out in a preface of unusual modesty. They consist, in the addition to each article of the generic characters, thus rendering the work a kind of manual of medical botany; in pointing out, more uniformly than his great predecessor had done, the officinal parts of each vegetable; in adding a description of the substance; in enumerating its active principles; in stating the dose; in indicating the succedaneums; in describing

ing its economical uses, and in appreciating its value, all in the same short technical style, of which the Swede set the example. As a specimen, we quote the following article:—

"MENYANTHES.—Corolle barbue; stygmate fendu en deux; capsule à une seule loge.

"MENYANTHES *trifoliata.* Feuilles ternées; fleurs blanches et barbues; fleurit en prairial. *Black.* 474.

"Pharm. *Trifolium aquaticum.*

"Franç. Ményanthe, Trèfle d'eau.

"Lieu. Europe, dans les marais.

"Part. usit. La plante entière, la racine.

"Forme. Racine rampante, géniculée.

"Qual. Plante savonneuse, très amère.

"Princip. Peu de principe volatil, un peu d'huile essentielle; une substance gomméo-résineuse, amère et d'une acidité assez marquée; un sel neutre, très analogue au sel marin, qu'on retrouve dans tous les trèfles.

"Vert. Racine *verte:* balsamique, tonique, fondante, diurétique, un peu laxative, même émétique; fébrifuge: *sèche,* elle n'a presque plus d'activité.

"Usag. Cachexie froide, scorbut, mélancholie, goutte, rheumatismé, néphrétique, leucophlegmacie, scrofules, phthysie, ulcères internes, fièvres intermittentes.

"*Extérieurement,* excellent détersif. *Cartheuser* a vu le suc de Ményanthe, uni à la poudre de Tormentille, jusqu'à la consistance pilulaire, produire les mêmes bons effets que le Quinquina.

"Dose. En Infusion, ʒss, ʒj; son extrait, gr. iv, vj, en augmentant successivement cette dose jusqu'a gr. xij; ou ʒij de sa racine, en infusion, dans ℔j d'eau.

"Usag. econom. On cultive le Trèfle d'eau en Angleterre, pour le substituer, dans la bière, au houblon. Quoique amer, le bétail le broute *verd,* et le mange, sans répugnance, *sec.*

"Succed. Le Chardon-bénit.

"Apprec. Plante pourvue des plus grandes vertus; moins employée en France qu'elle ne devrait l'être, parce qu'elle n'y est pas assez connue, sous ses rapports médicaux."

From this extract it is evident, that M. Peyrilhe is of the old French school, and is not infected with that egotism and *neomanie* which detracts so much from the meritorious zeal of the present. Hence, although this *tableau* does not contain all that is newest, it contains much that is good, condensed in very few words. But Mr Peyrilhe's work is chiefly valuable on account of the table of mineral waters, especially of France; an article which Linnié and his editors had omitted altogether, and which will be consulted with advantage by those interested in this branch of natural history.

V.

V.

Journal of the Establishment of Nopal, and Tuna, for the Prevention or Cure of Scurvy, Dysentery, and Ulcers, on Shipboard, and Mitigation of Famine on Shore. By Dr James Anderson, Physician-General. Madras, 1808.

The preservation of the health of our seamen is one of the most important subjects which can engage our attention. Those men, to whom this country owes so much, are often and for very long periods deprived of many comforts and exposed to many hardships. They suffer particularly in a most distressing manner from the sea-scurvy, which is the more afflicting, as it originates in causes which are neither easily prevented nor removed. Whatever opinion we may adopt concerning its pathology, it is certain that it is occasioned by salt and rancid provisions, without a due proportion of fresh vegetables, and that it only yields to a sufficient supply of fresh vegetables or some substitute, of which lime-juice is the best. It has on these accounts been long a problem, both with naval commanders and professional men, to discover some fresh vegetable, or preparation of a vegetable, which could be taken on board in sufficient quantity to form a part of the seaman's diet, and in a state in which it would retain its antiscorbutic powers for a sufficient length of time. The fresh vegetables of these temperate climates are either too expensive or too bulky, or soon rot and decay after being cut or pulled, and it has been found that every preparation which they undergo to make them less perishable, diminishes their virtues.

But there is a numerous class of fleshy and succulent plants which vegetate in the sandy deserts of the torrid zone, and which have the singular property of remaining long fresh and vigorous without water, and even when separated from the soil. This probably suggested to Dr Anderson the idea of employing one of them as an article of marine diet. The first trial of its alimentary use was made at Dr Anderson's request by Mr Ednam, surgeon of the Russel, who gave the following account of it.

"The plant known by the name of Kew Nopal, which you were so polite as to furnish me with to try its effects in scurvy, that was so general among the crew of his Majesty's ship Russel, after a cruise of three months, entirely confined to sea diet, I have the pleasure to say, proved so agreeable to those who had it given them in its raw state, that they compared it to sorrel; and I have no doubt but it would have proved highly useful, could it have been continued; b owing to a diarrhœa, which generally occurs on the first use of eve kind of fresh diet, I was obliged to desist giving the nopal or a other succulent vegetable, and to pay attention to the state of th bowels by opiates, and occasionally a little creta, or some absorbe to correct the acidity in the stomach. As I considered the whole o the crew as being more or less affected with the scurvy, and the necessity of their having vegetables with their boiled fresh meat, I mad use of the nopal in a manner more admissible, which was to put a proportion every day in the coppers with their soup; this, I thin is a preferable mode, as being less likely to affect the bowels tha in its raw state."

Sometime afterwards, Dr Anderson published in the Madr Courier, a statement of the

"*Advantageous properties of the Nopal, as a sea store in long voyage*

"1*st*, That it is found to keep fresh in dry wholesome air, an indefinite length of time.

2*d*, That it is equally procurable every day of the year, at all seasons, whereas other vegetables are only procurable at a certai season, whether pompions, cucumbers, or onions, &c.

3*d*, That although the potatoes and yams may be preserved a great length of time, yet at length they vegetate and grow, and are no longer palatable; whereas every shoot that the nopal puts forth is a valuable addition to the parent stock.

4*th*, That in its raw state it is equally palatable with any kind of green fruit, and in this way has been compared to apples.

5*th*, That it is perfectly wholesome and nutritious.—Twenty large Sechell turtles have been fed solely with nopal, for years together, without a single accident of death or sickness.

6*th*, That in soup, the most fastidious palates have made no exception to it; and, when previously cut into small pieces, have declared that they believed it to have been some delicate and tender kind of bean or peas.

7*th*, That when boiled to a pulp, it gives broth or soup that kind of consistence, which in Scotland is called lithing—and used thus, will prove useful in bowel complaints, beyond what can be expected from water gruel or conjee, on account of its mild and mucilaginous qualities."

A second letter from Mr Edpam contains many useful observations, both on the effects of the nopal and the mode of preserving it.

"In my letter to you of the 3d of March last, respecting that valuable vegetable as an antiscorbutic (the nopal), I promised a farther account, and have now the satisfaction to say, that I am of opinion it may be used when acescent fruit or vegetables cannot, where there is an attendant diarrhœa, which prevented me using the nopal or any other vegetable at the time I then wrote to you.

"After the Russel's leaving Madras, and the ship's crew commenced on salt diet, I gave to several men (whom I considered as still having scurvy) about half a leaf of the nopal every day, according to its size, while they were on sea diet, and was pleased to find, that though they all had the diarrhœa, no such complaint returned; they consequently received the greatest benefit: But I think it proper to observe, for the guidance of every gentleman who may try its effects, that I took the precaution to pare the plant as they would a cucumber, and to give it after their dinner, lest its being given on an empty stomach might affect the bowels, as raw vegetables are apt to do even in persons in health.

"I also beg leave to offer some remarks respecting the mode of preserving it: I have now by me (which I send for your inspection), some of what you were so good as to give me in the beginning of March last; and so far from its having decayed, or having been in any way rendered useless as other vegetables, by being long kept, it throws out a number of shoots, which appear to possess all the properties of the parent plant; the cooler it is kept, the better; for some which I had in the sick-bay, by being so near the galley-fire, was evidently forced by the heat, which occasioned it to vegetate and shoot very rapidly. This I observed to wither, as the fine mucilaginous juice was dried up by these shoots: to prevent its being lost, I put it into the ship's soup when they were on fresh meat, and every one partook of its benefit.

"The most convenient mode of preserving this excellent vegetable, is to pierce the leaf with a large sail-needle, and stringing it upon a piece of white line, or a single yarn of rope, (which does not seem to injure it); if small twine were to be used, the weight of the plant would cut it through; keep the line stretched out, so that a free admission of air will be given to every part of the plant: in this way, it may be hung up on each side of the beams of the deck, either in the sick-bay, or in any other part of the ship, as the half-deck, &c. without appearing at all in the way. Small bunches of a dozen leaves each might be conveniently put (completely out of the way) under the ship's tops.

"I omitted stating, that at the time I first began the use of the nopal, we had on board ninety-six men who were severely affected with scurvy, but now are all recovered; and in the course of the last three months we only buried one man, who died of violent dysentery. This extraordinary and *unusual* healthiness, no doubt, is to be accounted for by the use of vegetables and fresh provisions, which they have during that period been almost constantly upon; and the nopal may justly be supposed to have contributed a great share in preventing a recurrence of the disease."

Among the many testimonies highly in favour of the use of the nopal as an antiscorbutic, those of Mr Darling of the Alnwick Castle, and of Mr Jeffries of H. M. ship Dover, are the most remarkable.

markable. It will be sufficient to quote some passages of the latter.

" Captain Tucker, previous to our last cruise, having heard of the happy effects of nopal in the scurvy, and of the high character it has so justly obtained in a variety of instances, I beg leave to state to you the effects of it as they occurred to my observation. Having, in consequence, been favoured with a supply of nopal from you, which was found on calculation not to be sufficient for the whole of the crew, it was thought advisable by Capt. Tucker and myself, in order to give it a fair trial, to select those cases which were particularly susceptible of the scurvy. We included in our list about forty men; some of whom were afflicted with ulcers, to whom a leaf of the nopal was given once a-day, and to those who seemed more particularly to require it, twice a-day. The general effect produced on those men was so strikingly obvious, that, on our return to Madras, a period of nearly three months, not a man among them was afflicted with scurvy—the ulcers in general mended, and many healed.

" Whilst others to whom the nopal was not given, being a greater part of the crew, were more or less tainted with its symptoms. The cruise was particularly unfavourable to the health of the crew, being a continuation of wet blowing weather, attended with a damp and variable atmosphere. The men to whom the nopal was given, were a mixture of all nations, many of them natives of the tropical climates, men who were early accustomed, almost from their infancy, to feed on vegetable matter, and consequently highly susceptible to the disease when feeding on a salt diet; others were men who were found on former cruises to be liable to it at a very early part of the voyage, from a long residence in India, and impaired constitution.

" I must beg leave to remark, that the nopal was preserved and attended to with the greatest care by Capt. Tucker in a variety of modes, part of it being suspended on lines, part on a netting made for that purpose, part in baskets: these plans were adopted to try the most adviseable way to keep it.—The way in which it appeared to keep best was evidently on lines: but it ought to be observed, that a sufficient quantity for a ship's crew, cannot be conveniently suspended in that way in ships in general: part, therefore, should be kept on netting, which is the next best method; whilst those destined for present use may be kept in baskets: for, hardy as the plant really is, it cannot but sustain injury from the motion of the ship, together with the friction they must necessarily sustain when one layer is laid on the other until the pressure becomes considerable.

" The nopal was daily examined, and those leaves that appeared on the decay, were expended first; for although part of a leaf may be decayed, it does not affect the whole; the decayed part being cut off, it will be found fit for use, and it preserves its utility and properties as well as the soundest leaf."

Dr Anderson has also been at much pains in introducing it to the notice of the natives, as a resource against the dreadful effects of those famines which unfortunately occur from time to time in India. Not only the leaves are esculent and nutritious, but also when the nopal is in luxuriant vegetation, large masses of gum exude from it, and it is well known that many natives in Africa subsist chiefly on mimosa gum and milk.

The nopal, or cactus coccinillifer, was originally introduced, by the assistance of Sir Joseph Banks, from Kew Gardens into the botanical garden at Madras, by Dr Anderson, with the intention of cultivating there the coccineal insect. This speculation failed, owing, it is said, to want of encouragement from the government, and Dr Anderson was at the time much vexed and disappointed. He fortunately, however, continued to cultivate the plant, and he is now likely to reap the reward of his zeal and labour, in enjoying the satisfaction of having been the means of conferring so great a benefit upon India. The cactus opuntia, or great Indian fig, which was also imported by Dr Anderson from Jamaica, and from its extreme prickliness forms a hedge through which even buffaloes do not venture to penetrate, answers the same purposes, but the prickles must be carefully removed.

We have the more readily noticed and made considerable extracts from this little work, because it is not to be met with in the shops; and we wish to suggest to such of our readers as may have an opportunity, to analyze the pulp and juice of these plants, chiefly with a view of ascertaining whether they owe their acidity to the presence of the best of all antiscorbutics, citric acid. Hoffman and Vauquelin have found malic acid and malat of lime in several congenerous vegetables.

PART III.

MEDICAL INTELLIGENCE.

Medical Lectures in the University of EDINBURGH.

Anatomy and Surgery - - -	Wednesday, Oct. 25.	1	Drs Monro.
Chemistry & Chemical Pharmacy		10	Dr Hope.
Dietetics, Materia Medica, and Pharmacy - - - - - - -		8	Dr James Home.
Theory of Physic - - - - -		11	Dr Duncan, sen.
Practice of Physic - - - - -		9	Dr Gregory.
Theory & Practice of Midwifery	Tues. Nov. 14.	3.	Dr Jas. Hamilton.
Morbid Anatomy - - - -	Wed. Nov. 15.	4.	Dr Monro, jun.

A Course of Practical Anatomy will be given, under the superintendance of Dr Monro jun. and Mr Fyffe.

Clinical Lectures on the Cases of Patients in the Royal Infirmary, by Dr Rutherford and Dr Duncan, sen.—the first lecture by Dr Rutherford, on Tuesday, November 14, at four o'clock afternoon.

Clinical Surgery by Mr Russell—the first lecture on Monday, October 30, at 5 P. M.

During the Summer session, lectures will be given on the following branches of education —

Botany, by Dr Rutherford.
Midwifery, by Dr Hamilton.
Clinical Lectures on Medicine.
———————— on Surgery, by Mr Russell.
Medical Jurisprudence, by Dr Duncan, jun.

ON the 24th of June, the Senatus Academicus of the University of Edinburgh conferred the degree of Doctor in Medicine on the following gentlemen, after having gone through the appointed examinations, and publicly defended their respective inaugural dissertations:

Of SCOTLAND.

John Thomson,	*De Dysenteria,*
Thomas Elliot,	*De Phthisi Pulmonali.*
David King, *Surgeon,*	*De Typho.*

Henry Walker, *Surgeon,*	*De Apoplexia Traumatica.*
John Sanders Shand, *Surgeon,*	*De Hydarthro.*
Samuel Burd,	*De Hydrope Anasarca.*
John Lauder, *Surgeon, R. N.*	*De Diarrhœa Mucosa.*
David Hay, *Surgeon,*	*De Colica Pictonum.*
Adam Robertson,	*De Scrofula.*
Alexander Ross, *A. M.*	*De Intemperantia.*
James Stenhouse,	*De Hydrocele.*
William Sibbald, *Surgeon,*	*De Capitis Injuriis.*
Walter Graham, *Surgeon,*	*De Dyspepsia.*
Robert Greig, *Surgeon,*	*De Digitali Purpurea.*

From ENGLAND.

William Sainsbury,	*De Apoplexia Sanguinea.*
B. F. Outram, *Surgeon, R. N.*	*De Febre Continua.*
Thomas Haines Banning, *Surg.*	*De Angina Pectoris.*
William Bromet,	*De Hydropum Causis.*
Charles Mackenzie,	*De Asphyxia.*

From IRELAND.

Samuel Allan,	*De Rubeola.*
George Gillichan,	*De Carcinomate.*
John Holmes,	*De Dyspepsia.*
Thomas Carcy Osburne,	*De Hepate.*
Thomas Callanan,	*De Febribus Intermittentibus.*
Richard Dancer,	*De Cinchona.*
James Donegan,	*De Hæmoptysi.*
Edward Dowling,	*De Hydrargyro.*

From PORTUGAL.

John Climac dos Reys,	*De Febribus Intermittentibus medendis.*

From the WEST INDIES.

J. H. Cutting, *Surg. Barbadoes,*	*De Rheumatismo Acuto.*
Joseph Cary, *Jamaica,*	*De Arthritide.*
Jas. T. B. Watt, *Jamaica,*	*De Dysenteria.*
Dan. Wane Huggins, *St Vinc.*	*De Hepatitide.*
Patrick Mackenzie, *Grenada,*	*De Animi Vi in Morbis inducendis et curandis.*
Samuel Woodcock, *St Christ.*	*De Febre Flava Indiarun Occidentalium.*
J. Daniel, *Nevis,*	*De Podagra Regulari.*

From AMERICA.

William Bruce Almon, *A. M. Nova Scotia.*	*De Galvanismo.*

John Watts, *A. B. New-York,*	*De Morbo Coxario.*
John B. Strachan, *Virginia,*	*De Ciborum Assimilatione.*
Robert Bayard, *Nova Scotia,*	*De Opii et Venæsectionis effectibus in puerperas.*
William Gibson, *Baltimore,*	*De Forma Ossium, gentilitia.*

And, on the 12th of September, the same honour was conferred on the following Gentlemen:

Of SCOTLAND.

William Wilson,	*De Hydrothorace.*
Henry Hardie, *Surgeon,*	*De Diarrhœa.*
James Wood,	*De Hydrothorace.*
Adam Black,	*De Melancholia.*

From ENGLAND.

W. Walker Hutchinson, *Sur.*	*De Febre putrida intestinali remittente Bengaliæ.*
Wm. Bond Clements,	*De Morbillis.*
John Turner,	*De Regimine antiphlogistico.*
Henry Jeffreys, *Surgeon.*	*De Cataracta.*

From IRELAND.

William Willis, *A.B. T.C.D.*	*De Quibusdam differentiis inter fœtum et adultum.*
John M'Dowell,	*De Phthisi pulmonali.*
Robert Reid,	*De Respiratione.*
Wm. James Fergusson,	*De Ferro.*
James Roche Verling,	*De Ictero.*

From the WEST INDIES.

William Boxill, *Barbadoes,*	*De Pneumonia.*
George Rickets Nuttal, *Jamaica,*	*De Podagra.*

From AMERICA.

James Vose, *New-York,*	*De Arteriæ carotide aneurismate.*
William, C. Bowen, *A. B.*	*De Sanguine mittendo.*

University of Glasgow.

The Medical Lectures in the University of Glasgow will begin on Wednesday the 1st of November, at the following hours:

Dietetics, Materia Medica, and Pharmacy -	At 10 o'Clock in the forenoon,	Dr Miller, Lecturer,
Midwifery, - -	At 11,	Mr Towers, Lect.
Theory, and Practice of Physic - -	At 12,	Dr Freer, Professor.
Anatomy and Surgery -	At 2, afternoon,	Dr Jeffray, Prof.
Chemistry, and Chemical Pharmacy - -	At 7,	Dr Cleghorn, Lecturer.

Clinical Lectures on the Cases of Patients in the Royal Infirmary, by Dr Freer and Dr Cleghorn.—The first Lecture by Dr Freer, on Tuesday evening, the 14th November, at six o'clock. Dr Brown will commence his Lectures on Botany about the beginning of May next. The following gentlemen have obtained the degree of Doctor in Medicine from this University, within the last twelve months.

Mr William Young	from Scotland.
Mr Robert Perry	———
Mr Robert Neilson	———
Mr Francis Cavenagh	Ireland.
Mr William Langmore	England.
Mr John Crozier	Ireland.
Mr Michael Dillon	———
Mr John Whittam	England.

ST GEORGE'S HOSPITAL, *and Great George Street, Hanover Square.*—In the first week of October will commence a course of Lectures on the Practice of Physic, Therapeutics, and Chemistry, in the Lecture Room, No. 9, Great George Street, Hanover Square (removed from Leicester Square), at the usual morning hours, viz. the medical lectures at eight, and the chemical at a quarter after nine o'clock; by GEORGE PEARSON, M. D. F.R.S. senior physician of St George's Hospital, Fellow of the College of Physicians, &c. A register is kept of Dr Pearson's Cases in St George's Hospital, and an account is given of them every Saturday morning, at a Clinical lecture, at nine o'clock.

Dr Buxton's autumnal course of lectures on the Theory and Practice of Medicine will be commenced 2d October, at the Medical Theatre, London Hospital.

Mr BELL'S *Classes. Terms of attending Mr* CHARLES BELL'S *Lectures, No.* 10 *and* 11, *Leicester-street, Leicester-square, London.*

THE course of lectures on Anatomy and Surgery, first course, Five Guineas.—Second course, Four Guineas.—Third course, Three Guineas.

After this, a pupil has the privilege of attending the lectures as long as he pleases, without any further expense; or, by paying 10*l.* 10s. at first, he is entitled to the same privilege. The *winter course* commences the first of October, at two o'clock in the afternoon. The *spring course* of anatomical lectures on January 19.

The surgical lectures commence shortly after the anatomical part of the course, and are continued every Tuesday and Thursday evening, during the continuance of the anatomical part of the course. Gentlemen not attending the anatomical class, are admitted to these lectures, on paying a fee of *Three Guineas* the course. On paying *Eight Guineas*, they become perpetual pupils.

In the dissecting-rooms, (which are open from eight o'clock in the morning, till ten at night,) a demonstration is given from one till two o'clock, by Mr Robertson.—Mr Bell or Mr Robertson are constantly present to direct the student in the progress of the dissections. The fee for the dissecting-rooms, *Three Guineas.*

A course of operations on the dead body, superintended by Mr Bell, *Five Guineas.* No fee is required, if the gentleman attends the public lectures and dissecting-rooms.

All correspondence respecting gentlemen who wish to become house-pupils, must be through their parents, guardians, or late masters.

University of Paris, (College de France.)

The following classes, for the different branches of education, open at Paris in the month of November :—

Astronomy - - -	
Mathematics - -	Maudit.
Experimental Philosophy -	Lefebure Gineau.
Medicine - - -	Hallé.
Anatomy - -	Portal.
Chemistry - - -	Thenard.
Natural History - -	Cuvier.
Law of Nature and Nations	Pastoret.
History and Moral Philosophy	L'Evêque.
Hebrew - - - - -	Audran.
Arabic - - -	Caussin.
Turkish Language -	Ruffin.
Grecian Philosophy -	Bosquillon.
Grecian Literature - -	Goil.
Latin Rhetorick - -	Dupuis.
Latin Poetry - -	Delille and Legouvé.
French Literature -	Cournaud.

In December, Lectures are delivered at the Athenæum, as follows:

Chemistry - - -	Fourcroy and Vauquelin.
Anatomy - - -	Sue.
Physiology - -	Richerand.
Zoology - - -	Cuvier.
Physicks (Technologie) -	Hassenfratz, &c. &c.

Allgem. Literatur-Zeitung.

Report

Report of Diseases treated at the PUBLIC DISPENSARY, *(near Carey-Street,) London, from May* 31*st to August* 31*st* 1809.

ACUTE DISEASES.

	No. of Cases.		No. of Cases.
Typhus	1	Scarlatina	4
Synochus	15	Erysipelas	1
Tertiana	1	Urticaria febrilis	3
Quartana	1	Dysenteria cruenta	8
Otalgia	2	————alba	5
Cynanche tonsillaris	3	Cholera	7
Catarrhus	39	Vomitus bilios	2
Pleuritis	3	Apoplexia	1
Peripneumonia	6	Hydrocephalus acutus	2
Pertussis	11	Febris Infantum	4
Variola	1	Rheumatismus acutus	5
Varicella	2	Arthritis rheumatica	7
Herpes zoster	1		

CHRONIC DISEASES.

	No. of Cases.		No. of Cases.
Cephalæa	16	Colica pictonum	8
Hydrocephalus chronicus	1	Constipatio	3
Vertigo	4	Diarrhœa	10
Hemicrania	1	Hæmorrhagia intestin.	1
Catarrhus chronicus	23	Vermes	3
Asthma et Dyspnœa	3	Hæmorrhois	3
Dysecæa	2	Peritonitis chronica	2
Palpitatio	1	Marasmus	4
Angina pectoris	1	Menorrhagia	15
Hæmoptysis	8	Amenorrhœa et chlorosis	6
Phthisis pulmonalis	8	Leucorrhœa	16
Hectica adolescentium	1	Hyrops tot. corporis	3
Dyspepsia	20	Ascites	2
Gastrodynia	7	Anasarca	5
Pyrosis	4	Tympanites	2
Hæmatemosis	2	Phlegmatia dolens	1
Icterus	1	Nephralgia	3
Morbi hepatici	2	Hæmaturia	2
Enterodynia	14	Impetigo	3
Hysteria	4	Porrigo	3
Epilepsia	1	Scabies	4
Asthenia	29	Prurigo	1
Paralysis	2	Erythema	3
Rheumatismus chronicus	18	Psoriasis	2
Pleurodyne	2	Purpura	1
Lumbago et sciatica	6	Aphthæ	2
Rachitis	1	Lichen	3
Colica	3		

The summer months have been unusually wet and cool. A few warm days occurred in the third week of June, in the second week of July, and about the end of August; but the remaining portions of those months were cool, often very chill, with almost daily rains, accompanied with thunder and lightning. On the whole, however, a damp and cool summer is favourable to the health of the inhabitants of London; and accordingly, the number of applicants to the Dispensary has been smaller than is usual at the summer season. It must be observed, too, that the disorders which are more peculiarly the product of this season, when there is much heat, have appeared in a very small proportion. Cholera, bilious vomiting, and diarrhœa, have hitherto been rare; and cases of dysentery have not been more numerous than for several months past. These febrile affections, which come under the denomination of synochus, or summer fever, have likewise occurred in very small numbers. In a word, it appears from a survey of the preceding catalogue, (as far as the practice of one institution can be deemed conclusive,) that the metropolis is at present remarkably free from any prevalent disease. The whooping cough, which is generally an epidemic of the colder months, has, indeed, been rather more frequent among children than is usual; but it has appeared in a mild form.

London, August 31*st* 1809. T. B.

A Statement of the number of Patients admitted into the PUBLIC HOSPITAL *at Kingston, from the first of November* 1807, *to the* 21*st October* 1808.*

	Total admitted.	Died.		Total admitted.	Died.
Anasarca	2	0	Jaundice	3	1
Ascites	3	0	Luxation of the hip	3	1
Asthma	16	6	Mumps	1	1
Bruises	5	0	Œdema	1	1
Cephalalgia	3	0	Ophthalmia	1	0
Contusions	7	1	Phthisis	3	3
Debility	13	2	Pneumonia	11	3
Dysentery	45	17	Rheumatism	38	0
Dyspepsia	1	1	Removed testicle	1	1
Explosion by gunpowder	2	0	Scrofula	2	1
Fevers	494	200	Scurvy	4	1
Fractures	3	2	Syphilis	34	4
Gunshot wounds	8	3	Variola	1	1
Hepatitis	6	0	Ulcers	107	10
Hæmorrhagy	1	1	Wounds	1	1
Iliac passion	1	1			
Insane	20	2	Total admitted	845	
Iſchuria	3	1	Died	268	

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* From Dr Dancer's Medical Assistant, or Jamaica Practice of Physic. (2d Ed.)

The preceding list of the diseases of patients admitted last year into the hospital at Kingston in Jamaica, may serve to show what diseases are most prevalent in that city, if not through the whole island, which, with the exception of yellow fever, are nearly the same. According to the account of a gentleman who had very extensive practice in the centre of the island, remittents, intermittents, dyspepsia, diarrhœa, dysentery and hepatitis, comprised the whole catalogue. Phthisis pulmonalis rarely occurred, and calculus never. The gout, though it sometimes occurs, is not so severe as in northern countries, but rheumatic complaints are common. The dry belly-ache, formerly so frequent, is now very rare. Cancer seldom occurs, and *is peculiar to water drinkers.* The putrid or ulcerated sore-throat is often epidemical and fatal, also the small-pox, measles and influenza. See an account of the climate and diseases of Jamaica by Dr George Farquhar, in the *Philadelphia Medical Museum, Vol. I.*

Observations by a Correspondent on the Expediency of some late Regulations concerning the Medical Department of the Army and Navy. *

SOME additional instructions have lately been issued to the Naval Hospitals both at home and abroad. The most important of these is a strict interdiction to physicians and surgeons from the exercise of private practice.

We are inclined to doubt the expediency and policy of this regulation. The authors of it do not seem clearly to have apprehended, that the practice of a liberal profession is widely different from that of a mechanical occupation, and in no respect more than in this, that the service it performs, and the merit due to it, cannot be estimated merely by time. The value of a carpenter's labour is in proportion to the time he is engaged in it; whereas, a barrister or physician give, in a few minutes, the result of a whole life of study. Provided an hospital is well regulated, it is not conceivable that, in the common course of service, a physician or surgeon can be occupied from morning till night; and, in case any extraordinary emergency should render such unremitting attendance necessary, the medical officer who would suffer himself to be diverted from his duty, by any temptation whatever, must be destitute of those principles of probity, honour, and humanity, inseparable from every man of education and character. If such neglects do occur, it is much more likely they should arise from vice, or habits of idleness, than from private practice; and it may be asked, why the latter has been singled out as an object of interdiction, while there seems infinitely more reason to have enumerated drunkenness, gaming, fishing, or shooting, which are certainly not less immoral, or more innocent methods of employing vacant time, than relieving the sufferings of our fellow creatures, as well as more frequent and likely temptations to the neglect of duty. It is plain, that all such prohibitions are entirely unnecessary. The short and simple way is, for those in authority to see whether a medical officer, like any other officer, actually does his duty; and, if not, to dismiss, or otherwise punish him, without inquiring what is the nature of the temptation that has seduced him, and without exposing themselves to the opprobrium of instituting an inquisition into the private life of these gentlemen, in order to discover how they spend their hours of leisure.

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* Since these observations were written, various publications have appeared upon the subject, besides those here mentioned. The editors think it necessary to give this explanation, although their not being noticed is the less material, that the opinions here delivered by a gentleman eminently qualified to judge of these important subjects are founded on observation and general principles.

This interdiction seems farther impolitic, by preventing a medical practitioner from improving that skill and experience by which the public is to benefit, while it damps that taste and ardour in pursuing his profession, which alone can make a good practitioner. It farther militates against the public service, by withdrawing one of those encouragements which strongly entice men of ability and character to embark in the service, while it exposes others to spend their spare time in dissipation. Nor is it undeserving of consideration, that the civil community in the neighbourhood, in cases of severe sickness or injury, is deprived of the valuable assistance of such skilful and expert practitioners as are to be found at public hospitals. In the great civil hospitals in London and elsewhere, private practice is considered as a recommendation to a physician or surgeon; nor do the governors ever elect any but those who are in practice, and would certainly reject any candidate who should profess that he would confine his practice and his whole attention to the hospital. We are well assured, that these restrictions have been considered as a serious hardship by the inhabitants of some of our colonies, where good medical and surgical aid is scarce, and where they cannot avail themselves of the good advice that is at hand, without risking the ruin of those in whom they confide, who might thereby be exposed to the malice of some informer.

The Commissioners of Military Inquiry have lately made a report on the medical board of the army, in which they have brought some heavy charges against the members of that board, both in their joint and individual capacity. The Surgeon-General has been accused of great profusion and neglect in the unnecessary accumulation and expenditure of stores, the inadequate appointment of medical officers, and the overlooking or conniving at palpable peculation. With regard to the medical conduct and arrangement of hospitals, they have given their opinion in favour of regimental hospitals over general hospitals, and seem to approve of a regulation made by the Inspector-General, whereby physicians to the army have either been entirely set aside, particularly those who have been taken from civil life, or have been placed in a state of degradation, by being rendered amenable to the superintendance and authority of inspectors, who are made eligible only from the corps of regimental surgeons, and enjoy emoluments far superior to those of a physician.

Two answers have appeared to this report: one is from the Surgeon-General, wherein he alleges, that the commissioners have either been misled by erroneous information, or have been guilty of the uncandid suppression, or the illiberal misconstruction of the documents submitted to them. It appears to us, that the acknowledged mismanagement of the medical affairs of the army has originated from a want of due method, and efficient organization of the medical board, rather than individual delinquency. The Surgeon-General seems to complain, with reason, that, in a warfare of unexampled variety and extent, the pressure of business has been such as to baffle his utmost exertions, with such an inadequate allowance of clerks and other assistance, as was granted him.

The second answer is from Dr Bancroft, a half-pay physician to the army, who has confined his attention to that part of the discussion which relates to the comparative merits of general and regimental hospitals, and the question of expediency, whether physicians should be taken from those who have been highly and regularly educated as such, from universities and civil life, or whether they should be selected from the regimental surgeons. He warmly maintains, that those whose minds have been most highly cultivated in point of science, and who have paid the most extensive attention to medicine, by a regular series of study at schools and hospitals, must prove better physicians than those who have been more imperfectly educated, and whose attention has been directed to other branches of the profession. He alleges, that the most distinguished physicians to the army, such as Pringle and others, as well as to the navy, such as Lind and Blane, were men taken from universities and civil life, without having been conversant in surgery.

It appears to us, that the partizans of each side of this question have taken a narrow view of it. In the diversified exigencies of a great and opulent nation like ours, which carries its arms and its commerce into every quarter of the globe, there ought to be scope and encouragement for every possible variety of talents. While there seems every reason that the groves of classical literature and the attainments of general science should be admitted not only as fair recommendations, but as the only foundations of the character of a genuine physician, there seems no reason why the surgeon of a regiment, whose turn of mind is more bent to physic than surgery, and who may have had the advantages of a learned education, may not occasionally be appointed a physician to the army. And with regard to the much contested question respecting regimental and general hospitals, there seems nothing more clear and demonstrable than that they are both absolutely necessary in a well organized army. In stationary situations, such as garrisons and cantonments, regimental hospitals alone may prove adequate to the accommodation of the sick; but in case of the movements of an army in actual warfare, which is the case that should above all others be provided against, it seems utterly impossible that the sick and wounded, who must unavoidably be left behind, can be accommodated otherwise than by general hospitals, conductod by a regular establishment of physicians, surgeons, and their assistants, with due assortment of furniture and implements. And as such establishments ought always to be in readiness, there ought to be at least a skeleton of them, even in stationary service and in peace, which might be found of great utility in case of extraordinary sickness, particularly such as is of an infectious nature, when it would be advisable to remove them from the general contact of the army in the regimental infirmaries. We conclude with entering our protest against a criterion which the several partizans in this dispute have affected to set up, respecting the merits of these two systems, namely, the comparative mortality in each. That this must depend on the nature of the disorders, and the degree of their severity, is so obvious, that we cannot but suspect that those who employ an argument so evidently fallacious, are more guided by the spirit of party than by truth and candour.

Extract of a Letter from Dr A. P. Wilson, Worcester, 27th August 1809.

In the last Number of the Edinburgh Medical and Surgical Journal, Mr Woodham points out two passages in my papers on fever and inflammation, which appear to him to be at variance. If he will take the trouble to look over the papers again, I think he will admit that he has, in this instance, mistaken my meaning. I main-

I maintained, that the difference between the hot stage of fever and inflammation is, that in the latter, the debility of the capillaries is local, in the former, general; so that the hot stage of fever may be regarded as a state of general inflammation: but I certainly did not maintain, that the phenomena of these diseases are the same. The circumstance of the debility of the capillaries being in the one case local, in the other general, necessarily occasions much difference in the phenomena. (See my essay on the nature of fever, note 35.) Hence it appears to be, that in simple fever, the pulse, however strong, is not hard; in inflammation, however weak, it is generally hard. I have never regarded fever and inflammation as one disease, as Mr Woodham seems to suppose; I only endeavoured to point out, that to the debility of the capillaries being local in the one instance, and general in the other, all their differences may readily be traced.

Allow me also to say, in answer to the latter part of Mr Woodham's remarks, that I cannot consider the opinion of the capillaries (of the surface of the body at least), in the hot stage of fever, being in a state of relaxation, and consequently of debility, as an hypothesis; because I have, by the assistance of the microscope, found *, that when surfaces become red and turgid, these vessels are always, as far as my experiments went, found in this state; and because it appears impossible to account for a surface becoming red and turgid, if we suppose its vessels in any other state, unless extravasation of red blood takes place, and then the redness and turgescence are of a different kind.

I have to thank Mr Woodham for clearly stating his objection, so that it is in my power to offer an answer to it. And I cannot help again complaining of those who condemn an opinion founded on direct experiment, without any attempt to point out in what the fallacy consists.

Account of the late Sir JOHN MACNAMARA HAYES, Bart. *Physician to the Ordnance Department, Physician extraordinary to the Prince of Wales.*

He died, aged about 64 years, on Wednesday morning, July 19th, at his house in Old Burlington Street, after a very short illness, for he was so well as to dine 13 miles out of town on the Sunday preceding. On the evening of Sunday, however, he began to feel a painful affection of the throat, which increased much the following day, (on Monday), but not to prevent his going out in the morning. In the evening the complaint became serious, and the day following very alarming. It was treated as an inflammatory case, by blood-letting, local and general blistering, purging, &c. but notwithstanding the most active measures, the disease increased, and Sir John died about six o'clock on the next day, viz. Wednesday morning. On examination after death, the fauces, but especially the epiglottis and inside of the contiguous trachea, were found very considerably inflamed, with some matter like pus upon these parts, which were also much swelled. The surgeon on this occasion reported the appearances to be exactly the same as in the case of the late Dr David Pitcairn, whom he also opened, and who died after 48 hours confinement. It is well known that Dr Pitcairn's disorder was inflammatory, and was treated according to the antiphlogistic plan, although many persons supposed it was the infectious sore throat, produced by his attendance on Captain Towry, who also died a short time before Dr Pitcairn. These three fatal similar occurrences, within a few months, have occasioned a pretty general sensation in London, and been of course a common topic of conversation, both in medical and other circles.

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* The Introduction to the second Part of my Treatise on Febrile Diseases. Vol. III.

Sir J. Hayes may be fairly asserted to have been the fabricator of his own fortune, in consequence, however, of availing himself judiciously of fortunate circumstances. He was the son of a tradesman or artist in Dublin, and was intended by some to be educated for the Catholic church; but he settled in London, in or near Leicester Fields, as a surgeon and apothecary, nearly 40 years ago. On the breaking out of the American war he went as a mate in the army to America. His agreeable company and good conduct procured him the patronage especially of Lord Rawdon (afterwards Lord Moira), and he became successively surgeon and physician in the military service. He obtained a degree in physic from Rheims. At the close of the American war, or a few years afterwards, he settled as a physician in Golden Square, and married with a loyalist American family, with which he had been acquainted in New York. For some years he attended as a physician at Brighthelmstone in the summer season, and became physician to the Westminster Hospital. The patronage of Lord Moira procured him the honour of physician-extraordinary to the Prince of Wales. He was from time to time called to serve in the army, till his patron procured for him the honour of baronet, and the office of physician to the ordnance department, on full pay, viz. 3 guineas a-day, with proportionate perquisites and allowances, making the amount of at least 1800*l.* a-year. It was understood this place was in a great measure created as a compensation for former services, and probably no successor will be appointed. Sir John Hayes had uniformly the character of an excellent military practitioner.

Letters on Vaccination in Ceylon, from Thomas Christie, Esq. Med. Sup. Gen.—To the Editor of the Ceylon Government Gazette.

SIR,—I beg leave to enclose for publication, an abstract of the number of persons vaccinated in Ceylon in 1807, which will show the successful progress we have made in disseminating the practice of vaccination, throughout the island, during last year.

The number inoculated has been considerably greater than in any former year, particularly amongst the Malabar inhabitants of the Trincomallie and Jaffna districts, who, in the first instance, seemed less disposed to adopt the practice, than the Cingalese, in the south-west part of the island; but a conviction of the perfect innocence of vaccination, and its preventive influence against small-pox, is now very general amongst all ranks throughout the British possessions in Ceylon, though, from the unfrequent occurrence of small-pox, the natives, in many places, show more indifference and apathy about shielding themselves from that malady.

We do not, however, find any difficulty in keeping up the disease at the respective stations; but the vaccinators are now frequently obliged to visit the different villages, and urge the inhabitants to avail themselves of the benefits of inoculation; whereas, on the first introduction of the cow-pox in 1802, when the small-pox raged at Colombo, the natives, of their own accord, flocked in crowds to the inoculators, and expressed the greatest anxiety to be immediately vaccinated.

The small-pox was prevalent at Trincomallie in January last, and from thence found its way to Jaffna; but has since been banished from both places, by the beneficial influence of vaccination, which has been very extensively practised in these districts during last year. The very successful propagation of the disease at these places, may, I think, be attributed to the alarm created by the appearance of small-pox, conjoined with the beneficial effects of a government advertisement on the subject, circulated in the Malabar language; to which must be added, the extreme assiduity of the collectors, in promoting, with their influence, a diffusion of the practice, and the very meritorious exertions of the medical superintendants and vaccinators in the discharge of their duty.

Previous to the introduction of cow-pox in 1802, the small-pox scarcely ever failed to visit us at Colombo during the prevalence of the south west monsoon, when the port was open, and generally carried off a great proportion of the inhabitants; but of late, we have comparatively suffered very little from that disease. It is true, that, since May 1805, we have had occasional cases of small-pox in the Pettah of this place, which, in some instances, there is reason to believe, was introduced from the Candian country; but the contagion never spread as formerly; and is at present extinct, not only in the Colombo district, but throughout the whole of the British possessions in Ceylon, agreeable to the most certain information I have been enabled to procure from the respective vaccinators, who are directed to report on this subject.

From a review of the registers of vaccination, I find that the total number of patients reported to me, as having regularly passed through the disease, up to the end of 1806, was 54,958, which, with 21,870, included in the abstract for last year, will make a total of 76,828 persons; a large proportion of the limited population of these settlements.

It would be absurd to expect, that, in such an extended practice, often conducted by persons not regularly educated to the profession of medicine, some failures and mistakes may not have taken place; but I can with truth affirm, that, in the neighbourhood of Colombo, where small-pox has most frequently occurred, I have been at great pains to trace to its source, any report prejudicial to vaccination, and to investigate the circumstances of every case of supposed failure, and in no one instance have I found that persons who had been vaccinated, and declared secure by the inoculator, ever afterwards had small-pox.

In a former letter, I had occasion to mention, for the information of your medical readers, the fact of the vaccine disease having been communicated to a boy affected with leprosy;* and, from a melancholy instance which has since occurred, it is certain, that persons affected with that disease, in the most malignant form, are not exempt from the contagion of small-pox.

Clara de Silva, a woman aged about 50 years, who had been confined in the Lepers Hospital since May 1775, with leprosy in the worst form, having been exposed to variolous contagion, sickened about the first of August 1806, and died on the 11th of that month, with confluent small-pox. On the appearance of small-pox in the neighbourhood of the Lepers Hospital in May 1806, vaccination was practised amongst the patients of that institution; but this old woman declared she had had small-pox when a child, and refused to be inoculated.

The fact may be useful, by showing that no disease of the skin, however virulent, gives perfect security against small-pox; and that in the event of an epidemic contagion, no consideration of that nature ought to prevent us from attempting to shield the constitution against its influence by vaccination.—I have the honour to be, &c.

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* Lepra Arabium, or Elephantasis of the Greeks. For a good description of which, as it appears in Ceylon, see Doctor Adams's Treatise on Morbid Poisons.

Colombo, 30th January 1808.

SIR,—I beg leave to enclose an abstract of the number of patients vaccinated throughout the different districts in Ceylon, during 1808, amounting to 26,207, which exceeds the proportion of any former year; and when added to 76,828, the number previously vaccinated, makes a total of 103,035 persons, who have been officially reported to me, as having regularly passed through the vaccine disease, since its first introduction into this island in 1802.

The dreadful ravages which the small-pox usually committed in Ceylon, previous to the introduction of vaccination, must be in the recollection of every one; and it affords me infinite pleasure to observe, that, agreeable to the most certain information I have been enabled to procure, that destructive malady has not existed in any part of the British possessions on this island during the year 1808, except in the district of Galle, into which it was brought on the 31st of January, by a Maldivian boat, last from Bengal.

A large proportion of the crew of this boat died; and the disease was communicated by a fisherman who visited it, on its first arrival, to two or three inhabitants in the neighbourhood of Galle, but spread no farther; which must be attributed chiefly to the favourable influence of vaccination, which has been so extensively diffused in that and the other districts of the island.

Colombo, 10*th February* 1809.

General Report of the Hospitals of Paris during the Year XI.

FROM this report, which goes into the minutest detail of the funds and expenses of the hospitals and charities of Paris, and forms a 4to volume of 380 pages, we have extracted the subjoined general tables.

In a short preface we are informed, that, before the revolution, the management of these was divided among the directors of the Hotel Dieu, Hôpital General, Grand Bureau des Pauvres, and several smaller establishments. At last, in the year IX. the Consul appointed a council, consisting of the two prefects and eleven members, to superintend the direction of all the hospitals and charities in Paris, with the exception of the military hospitals of *Val-de-Grace* and *Gros-Caillou*, and the charities of *Quinze-Vingts* and of the *Deaf and Dumb.*

The first act of this council was to class the hospitals and charities, and fix the destination of each: the total number was settled at nineteen, eleven hospitals and eight charities. Of the hospitals, *Hotel Dieu*, *Charité*, *St Antoine*, *Necker*, *Cochin*, and *Beaujon*,

Beaujon, were appointed for diseases not contagious; *St Louis* for chronic diseases, ulcers, and affections of the skin; *Veneriens* for syphilitic diseases; *Enfans Malades* for sick infants, which were scattered through different hospitals; *Maison de Santé* for patients able to pay the expense of their cure; and *Maternité*, which comprehends two establishments, *d'Accouchement*, to receive every woman eight months gone with child, or in immediate danger of parturition, and *d'Allaitment*, for foundling and deserted children.

After classifying them, the attention of the council was next directed towards lessening the expense. With this intention, they appointed a *central office of admission*, in order to receive none into the hospitals but paupers really sick; *houses of recovery*, in order to be able to dismiss those cured more easily; *an office* for placing out the children with artizans and manufacturers, and *small pensions*, which might enable some of those now residing in the charitable establishments to live at home, while those able were obliged to work. At the same time the buildings were repaired, the dormitories and halls better aired, and whitewashed, the bedclothes, &c. partly renewed, and the double beds abolished. A considerable diminution of expense was the result of this arrangement and regularity. The whole amounted,

In the year nine, to 7,760,000 francs;
ten, to 6,803,000 do.
eleven, to 6,055,000 do.

During the last year, the expense of nursing was 488,713, and of pensions 1,188,636; making the whole expenses for the year eleven, under the council, amount to 7,732,349 francs.

The number of paupers relieved during that year was 50,627, of which 37,901 were in the hospitals, and 12,726 in the other charities, which gives a daily population of 11,839, distributed,

In hospitals,	3,503	
In other charities,	8,336	
		11,839
The number of poor assisted in their own houses in years nine and ten, was 111,000; but, by the new lists in twelve, was reduced to - - -		86,956
Total poor assisted by public charity in Paris		98,795

The council reckon the population of Paris at 600,000, which gives one pauper in six; and as the mean number of sick poor is 5,003; that is, in hospitals 3,503, and in their own houses 1,500; it gives the proportion of one pauper sick to 20 in health.

TABLE, No. 1, showing the Number of Patients, average Number of Days each remained in the Hospital, and mortality.

	Beds.	Patients remaining.	Admitted.	Left.	Dismissed.	Dead.	Days.	Mortality, one in
Hotel Dieu	2200	1.155	11.158	834	8.707	2.772	35.11	4.14
Saint Louis	800	702	1.480	495	1.564	293	141.70	5.05
Venereal	550	412	2.194	428	1.941	167	78.81	12.69
Charité	250	230	3.522	242	2.800	710	25.32	4.94
St Antoine	230	139	1.785	57	1.448	419	24.91	4.45
Necker	130	104	1.063	120	837	210	42.66	5.
Cochin	100	86	1.017	80	840	183	31.	5.59
Beaujon	110	69	1.320	88	1.077	224	22.73	5.3
Enfans malades	400	241	1.988	247	1.492	490	48.15	4.
M. de Santé	100	34	660	57	486	151	29.20	4.21
Maternité lying-in.	500 beds and 300 cots	124	1.767	91	1.700	100	25.81	17.91
Their Infants.								
Boys		7	838	10	799	36	2.60	23. 2
Girls		6	748	2	712	42		18.
Nurses stationary		119	72	28	163		84.93	
Infants.								
Boys		67	46	19	88	6	76.	15
Girls		37	24	5	49	7		8
Foundlings.								
Boys		85	2.371	20	1.793	643	7.11	3.78
Girls		28	2.305	20	1.818	493		4.68
Result	5.870	3.645	34.256	2.841	28.114	6.946	36.18	5.5

TABLE, No. 2, showing the Average Daily Expense of each Patient, their Average Total Expense, and the Total Expense of each Hospital.

	Expense per Day. fr. cent.	Per Person.	Total Expense. fr. cent.
Hotel Dieu	1.57	55.12.27	633.823.67
St Louis	1.25	177.12.50	293.857.44
Venereal	1.18	92.99.58	196.824.67
Charité	1.68	42.53.76	149.496.70
St Antoine	2.03	50.56.73	94.349.06
Necker	0.95	40.52.70	42.697.26
Cochin	1.99	61.69	63.051.02
Beaujon	1.87	42.50.51	55.466.43
Enfans Malades	1.25	60.18.75	119.958.50
Maison de Santé	3.96	118.64.16	75.585.76
Maternité	2.34	30.11.58	116.727.20
Result	1.56	56.44.08	1.841.857.76

Mr Ljung, a Swedish naturalist, has discovered a new species of mouse, which he has named *sorex caniculatus*. It is the smallest animal known of the mammiferous class, weighing only about half a drachm.

Lacepede has lately given a minute description of an oviparous quadruped, not hitherto noticed by any naturalist, preserved in the Museum of Natural History at Paris. He classes it in the genus Proteus, or that of a salamander, distinguishing it by the name of tetradactylus, from the number of its toes.

A large swarm of bees having settled upon a branch of the poison ash, *rhus vernix*, in the county of West Chester in America, was taken into a hive of fir at three o'clock in the afternoon, and removed at nine to the place where it was to remain. About five the next morning, the bees were found dead, swelled to double their natural size, and black, except a few, which appeared torpid and feeble, and soon died, on exposure to the air.

A translation of Dr Wilson's work on Fever has been published at Leipsig, by G. A. Topelmann. Dr Fenwick Skrimshire's popular Chemical Essays have also been translated into German by Dr C. G. Senkeisen, and published at Leipsig.

Dr George Alley has in the press, and nearly ready for publication, a treatise on Hydrargyria.

The Report of the Surgeons of the Edinburgh Vaccine Institution, containing an Examination of the Opinions and Statements of Mr Brown of Musselburgh on Vaccination, drawn up at desire of the Managers, and published by their direction, for the Benefit of the Institution, is in the Press.

Communications have been received from Dr Clarke, Dr Shearman, Dr Osborne, Dr M'Grigor, Mr Goodlad, Mr Lyall, Mr Coley, a Naval Surgeon, Mr Wishart, Mr Ankers, and from Amersham.

*** Communications may be addressed to the Editors, to the care of Messrs Constable & Co. Edinburgh; and Messrs Gilbert & Hodges, Dublin.

Erratum.—Page 385, line 11, for *eight* read *two*.

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